

**LIVED EXPERIENCES OF ACCESS AND SUPPORT TO ONLINE LEARNING IN
MARGINALISED EARLY CHILDHOOD SETTINGS IN BUHERA DISTRICT,
ZIMBABWE**

by

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I declare that the above dissertation is my own work and that all the sources that I have used or quoted from have been indicated and acknowledged by means of complete references I further declare that I submitted the dissertation for originality checking, and that it falls within the accepted requirements.

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

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Dedication

I dedicate this thesis to the following:

My dear wife, Annatolia for the patience and support during this academic journey and my parents for believing in education as a ladder for social mobility regardless of socio-economic status.

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First and foremost, I give thanks to the Almighty God for his guidance throughout this academic journey. He kept on holding me in times of difficulty. I am forever grateful for his love.

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Abstract

For decades, face-to-face teaching and learning had been the global standard across all educational levels. However, the evolving technological landscape and the global crisis, such as pandemics and natural disasters, have made the shift to digital forms of learning inevitable. Online learning ensures continuity of learning during crisis times, yet its adoption in marginalised communities remains problematic. These communities already faced several exclusions, shifting to digital learning risks further marginalising them. The study explored the lived experiences of access and support to online learning for young learners in marginalised early childhood settings in Buhera District in Zimbabwe. A conceptual framework was developed to inform the study processes, drawing from theories such as the Actor Network Theory, Post-colonial Theory and Cognitive Dissonance to address the study's complexity. The study adopted a qualitative approach and multi-sited design within the interpretive and critical theory paradigms. Data were generated through interviews with six school heads and twelve early childhood development educators. Observations and document analysis were used to triangulate the findings. Data generated was transcribed and analysed thematically following Braun and Clarke's (2021) Reflexive Thematic Analysis model. The study findings confirmed that existing policies lack specific provisions for supporting online learning access for young learners in marginalised ECD settings. The findings also show that teachers' beliefs have an influence on how they perceive and implement online learning initiatives, yet their beliefs are normally under-supported. Additionally, the study reveals that learners on the margins face systemic challenges rooted in both colonial and contemporary structures that continue to sustain digital exclusion. These systemic barriers reinforce inequitable access and deepen the divide between privileged and marginalised communities.

The study further stresses that multiple actors within young learners' online learning environments often fail to be proactive in improving access due to contextual and structural barriers. To address this, all forms of systemic segregation need to be dealt with through developing policies that prioritise digital access for all young learners. A gap in teacher training emerged as one of the key findings and the need to transform the teacher training landscape. Thus, the study informs teacher training practices. The findings supported the development of the Mapuranga Framework for Action, which is a support model for improving online learning access for young learners facing digital marginalisation. This framework is the study's original contribution to knowledge and to the field of digital learning. This framework opens new opportunities for future research, particularly studies for validating the proposed framework.

Key words: Online learning, digital divide, marginalisation, framework for action, Early Childhood Development

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CHAPTER 1

Introduction and background

1.1 Introduction

For decades, face-to-face teaching and learning has been the global standard across all educational levels. However, the evolving technological landscape, the global crisis in the form of pandemics and natural disasters has made the shift to digital forms of learning inevitable. Modern life now demands a shift from the traditional way of teaching to technology-based learning. This aligns with Otara, (2024) and Sharma and Rakshit (2019)'s assertions that the fourth industrial revolution and life eventualities brought the need to integrate technology into the education system. Online learning in particular, offers continuity during crisis times, yet its integration in marginalised Early Childhood settings remains fraught with access and support challenges. Without proper commitments from multiple actors, online learning risks reproducing and deepening existing inequalities in underserved communities, underscoring the urgent need to strengthen the digital resilience of underserved communities.

This study sought to explore the lived experiences of access and support to online learning for learners in marginalised Early Childhood Development (ECD) settings. This crucial journey to unpack lived experiences of digital access for those in the margins cannot be launched without the wise words of Dr Marcus Specht:

“The students of the future will demand the learning support that is appropriate for their situation or context. Nothing more, nothing less. And they want it at the moment the need arises. Not sooner, not later. Mobile devices will be a key technology for providing that learning support.”

Marcus Specht, 8 September 2009.

Specht's (2009) remarks clearly demonstrate the evolving demands for learners in the digital era. His vision highlights the need for context-driven, timely and mobile-enabled learning support. The future he envisions is now, and it is imperative to address the digital divide and provide appropriate tools that make digital learning a reality for learners in marginalised ECD settings. Thus, the school system must cease adopting

a one-size-fits-all approach to digital education and provide support that is relevant to individual needs, ensuring that every child has access to resources that the modern world demands.

This study sought to understand the digital landscape for young learners in marginalised early childhood settings. It seeks to understand the support these learners need to make online learning a reality for them. The use of online learning is an emerging field UNICEF (2020) as it has proven to be a trusted contingency learning model during crisis periods like pandemics. Over the past decade, the world, especially from the developed countries' side, has made notable strides in ensuring the integration of technology in ECD classes. This was made possible through huge investments in expanding digital learning access to different learning levels of children. In Africa, particularly in Zimbabwe, more support is called for to make online learning a reality, especially in remote rural areas. Online learning brings several opportunities for learners, ranging from providing room for continuity of learning during crisis times (Tatminingsih, Oktarianingsih, and Jovanka, 2021) to reaching learners with disabilities who can be assisted while at home. Since the study is about access to online learning for learners in marginalised communities, it is critical to understand these variables.

Marginalisation, defined as both a process and a condition that restricts people or groups from fully participating in social, economic, and political life (Mowat, 2015). It describes the deliberate exclusion, or disadvantage, that some people or communities that reside in certain geographic places endure. According to the United Nations Development Programme (2017), marginalisation can result from a variety of things, such as prejudice based on one's lifestyle, economic standing, race, age, gender, or other factors such as having restricted access to education or living in a remote or underdeveloped location. According to Shephard-Walwayn (2018) marginalised communities are those who are unable to influence their circumstances or the systems that govern their circumstances using traditional means of power, such as money, political positions, public influence, education, or authority. In this context, marginalisation applied to the black communities since Buhera District in Zimbabwe is a community of black marginalised people. However, from the perspective of Alm and Guttormsen (2021), these individuals still have the means to influence their circumstances and the systems that determine their circumstances, which is their

voice. Since this study is about online learning, marginalisation will be viewed as being in a locality that restricts one's access to educational facilities, such as digital learning facilities. Scholarly work on online learning among 4–8-year-olds seldom includes marginalised people's own narration of their lived experiences. Thus, little is known about the voices of marginalised people and how they are responding to the call for digital teaching and with what success. This study had an interest in such marginalised communities to understand their beliefs and practices regarding online learning in ECD. An understanding of marginalised people's experiences is the preliminary phase for policy intensification that will help improve access to and adoption of online learning and teaching in ECD.

Online learning is another key term that needed to be explored. According to Dhull and Sakshi (2017) online learning is the practice of imparting education through a variety of digital channels, like the internet, emails, audio, and video conferencing. From the lens of Dhawan (2020), online learning is a method for making the learning and teaching process more learner-centred. Prior to the COVID-19 pandemic, online learning was seen as an essential component of academic and professional education, particularly for higher learning institutions, with little effort to make it a right of every child. Online learning has traditionally been thought of as a learning tool for College and University students. The current state of the world demands that this method of instruction be adopted from birth, so it is necessary to provide the ideal conditions for its acceptance, access and adoption in ECD. A study by Wu, Hsieh and Wu (2022) advocate for continued efforts in researching how to generate more inviting and efficient online learning environments. This study heeded to the call. Online learning is an emerging concept which needs to be explored especially in the context of early learning in marginalised environments.

1.2 Background to study

In the digital age, denying digital learning is denying childhood itself, a refusal of both voice and future. My study, titled, "Lived experiences of access and support to online learning in marginalised early childhood settings in Buhera District, Zimbabwe, was chosen to interrogate how inequitable access to digital resources shape the realities of young learners and teachers in marginalised contexts. For decades, face-to-face

teaching was the global standard, but technological advances and global crises have made the rise of online learning inevitable. Technological advances led to the global call to integrate online learning in Early Childhood Development (ECD) curriculum to equip young learners with digital skills they need to navigate the modern job market. International education frameworks increasingly underscore the significance of exposing young learners to digital environments early in life to prepare them for full participation in today's digital knowledge based global economy.

Globally, the world endured an attack by a Corona Virus (COVID-19 pandemic that disrupted access to human amenities such as education. The COVID-19 pandemic was crucial for this study because it exposed how unprepared were the education systems in dealing with major disruptions during a global crisis. The transition to online learning due to COVID-19 induced school closures exposed deep access barriers especially in developing countries where most people experience limited access to internet, electricity, and devices, coupled with a lack of digital skills among teachers and learners.

As evident from COVID-19 experiences, online learning emerged as a critical contingency for promoting continuity of learning during times of crisis, (Dhawan, 2020). Nevertheless, access to this teaching and learning platform for young learners in marginalised communities is far from reality. This perpetuates educational disadvantage among young learners from underserved communities during times of crisis (Rohwerder and Szyp, 2022). According to UNICEF (2021), more than two thirds of children globally were unable to access online learning during COVID -19 induced school closures. This staggering figure reveals the depth of digital divide and vulnerability of young learners in marginalised ECD contexts. The empirical evidence revealed the extent to which COVID-19 disrupts the teaching and learning systems. To avoid the same experiences in future, the educational systems across the globe need to face the challenge of ensuring sustainable learning through digital learning platforms. Failure to have such a foresight would inevitably reproduce educational disadvantage for young learners in marginalised ECD settings.

The African context exemplifies a complex interplay of historical, structural and policy gaps that shape access to online learning in marginalised ECD settings. The digital divide that Africans are witnessing today is not a new phenomenon but a continuation

of colonial legacies of neglect. During colonial era, resources were unevenly distributed with urban areas getting a lion's share, leaving remote rural area systematically underdeveloped. Cowie, Townsend and Salemink (2020)'s study observed the continuation of urban bias in today's digital era, thereby reinforcing exclusionary patterns established under colonial rule.

Prior to colonial rule, the pre-colonial states in African demonstrated rich traditions of technological innovation and advancement as evidenced by the production of glass beads in West Africa and the blacksmithing in Sub Saharan Africa (Babalola 2017). The way of survival during pre-colonial practices represents not only economic enterprises but crucial forms of technological pedagogy where knowledge were passed from generation to generation through apprenticeship and community engagement. Africa is viewed today as less civilised and characterised by limited access to digital infrastructure. The cause for this was partly due to disruption of the in indigenous knowledge systems by the colonial masters that replaced the local education system with Western oriented education that privileged bookish learning over practical engagement as well as failure by the post-colonial governments to deal with colonial legacies. A study by Pankhurst (1972) argues that colonial administrators have deliberately denied African people access to emerging technological knowledge so as to maintain control over them. These colonial experiences are therefore responsible for the adoption challenges that most colonised states are facing.

Apart from denied access to modern technology, young children of the colonial times had no access to early childhood education, which was largely reserved for white, affluent children (Mugweni 2017). The exclusion of African children from ECD programs had profound long-term consequences, as early childhood education is critical for cognitive, social, and emotional development. By restricting access to ECD, colonial administrations embedded inequality at the earliest stages of life, effectively curtailing the educational aspirations of colonised populations.

Inequalities in terms of access to educational resources has find space in the contemporary educational landscape as observed by Ebrahim (2010) who notes that children in underserved communities in South Africa continue to experience educational disadvantage despite policy commitments to equity. Marginalised populations often lack access to electricity, internet connectivity, and digital devices,

resources that are fundamental for online learning. Parks, Paros, and Yakubu (2024) emphasise that these barriers deprive learners of essential digital skills needed for lifelong learning and participation in the modern job market. Digital competencies have become the new currency for social mobility, and without them, young learners risk being excluded from future economic opportunities. In an effort to enhance the acquisition of digital competencies by young learners in marginalised ECD settings, intervention efforts need to focus on access dimensions developed by Levesque, Harris, and Russell (2013). They argue that equitable access to digital education requires attention to four dimensions, acceptability, availability, affordability, and appropriateness. These principles are particularly relevant for African nations seeking to integrate online learning into ECD curricula.

In the local context, Zimbabwe exemplifies the intersection of global and regional challenges in online learning for marginalised ECD learners. A study by Zishiri ...et al., (2025) reveal that access to electricity and internet connectivity is largely concentrated in urban areas with rural communities facing systemic exclusions. This infrastructural divide, perpetuate gaps in digital literacy and educational opportunities for learners in underserved communities. A study by Ameen (2021) revealed that most teachers in rural Zimbabwe lacked digital fluency and this has diverse impact on their practical teaching using online learning platforms. Zimbabwe's policy framework reflects a deliberate attempt by the government to provide mitigation measures for addressing marginalisation and integrate technology into early childhood education. Despite providing important groundwork, the reforms remain insufficient for bridging the entrenched digital divide.

The preliminary empirical data scanned for this study revealed that despite the global commitment to digital inclusion, early childhood education in marginalised ECD settings remains underexplored, especially with regard to lived experiences of learners and teachers. Much of the existing literature privileges macro-level analysis of infrastructure and policy, yet neglects the micro -level realities of the classrooms where digital exclusion is most acutely felt. In addition, early childhood digital education is underrepresented in digital learning research, as much of the literature explored integration of digital learning for secondary and tertiary education. This neglect is problematic since ECD is foundational, any exclusion at this stage translates into long-term developmental disadvantages.

This gap is critical because without lived experiences of how teachers and learners navigate daily struggles of access and support to online learning, interventions risk being abstract and misaligned with young learners' developmental needs. Although much data was generated through document reviews, first shots of literature review showed that there were limited policies specific for addressing online learning access challenges. The absence of specific digital policies for marginalised groups translate to fragmented practices that perpetuate inequity. This study acknowledges the contribution of historical inequities in compounding digital access challenges in today's marginalised ECD settings. Without connecting past injustices to present realities, online learning exclusion can be misrepresented as a temporary technical issue rather than a structural phenomenon.

My interest in this study was sparked by these learning gaps and further marginalisation of learners in underprivileged areas, which is brought on by the limited access to online learning resources as well as the lack of political will and legislation to solve this problem. The study was an attempt to close the identified gaps.

1.3 Rationale for the study

The world has learned from the experiences of the COVID-19 pandemic that planning for present-day events and the future is critical. One of COVID-19's biggest effects on schooling was to shut the classroom-based learning and forced the world population to shift to online learning. It became every child's right to learn online overnight. This educational platform came as a "one size fits all" framework without taking cognisance of age and different settings where people live. Online learning prior to the COVID-19 outbreak was viewed as a means of education by mostly College and University students. Examples of such research include Chirume and Ofori-Attah (2016)'s study, which explores the role of ICT in promoting access to quality education in the teachers' professional development. Muchemwa (2021), Hapanyengwi, Sambo and Zengeya (2021) focused on university lecturers and students' preparedness to digital learning and teaching during COVID-19 pandemic. Among the little studies done about online learning in ECD is Alberola-Mulet, Iglesias-Martinez and Lozono-Cabezas (2021)'s study in Spain. The findings revealed that ECD teachers value and use digital resources in their teaching. Although educators in Spain emphasize that online

learning is in use in preschools, we cannot generalize this to be representative of all ECD settings in the world since Spain is a developed country, and what happens there can be different from what is happening, say, in Africa and its developing nations. Teachers' worldviews are influenced by their socioeconomic status. Therefore, it is imperative to solicit the ideas of teachers in developing nations like Zimbabwe, paying close attention to their remote regions.

The adoption of online learning in ECD settings globally created gaps in knowledge that need to be addressed. A gap was created in the feasibility of online learning in marginalised ECD settings. ECD settings in marginalised communities lack most of the infrastructure and resources for online learning. Whether it is by design or structural influences, most of these communities are not connected to the internet and electricity, and they have limited access to digital devices. This gap needs to be explored so that a push for a shift to online learning in marginalised communities is informed by facts on the ground. This study recommended a renewed political will and a multi-sectorial approach in dealing with access issues to online learning. The government and its partners need to invest in digital learning, ensuring that every child has access to digital learning. This compels me to conclude the study with a call for action to move the online learning agenda forward

The feasibility of online learning can also be questioned based on the level of preparedness of learners, teachers, and parents to embark on this critical journey. The call for a shift to online learning was abrupt during the COVID-19 pandemic and there was a need for a study that explored how online learning can be effectively accessed in marginalised ECD settings. The study established that teacher beliefs and advocacy are critical elements of ensuring access and support to online learning at the early childhood level. Teachers with positive beliefs about the effectiveness of online learning in ECD offer maximum support to ensure that teaching and learning are delivered using this platform (Mou and Kao, 2021). A study was needed to explore teacher beliefs as a way of understanding their feelings regarding online learning in ECD classes. This was critical for providing research-based recommendations that can improve the manner in which digital learning is seen in ECD. It could be argued that the development of positive beliefs among the teachers would directly impact their agency in moving the online learning initiatives forward.

To effectively implement online learning with young children, there is a need for digital competencies among the learners, teachers, and parents who provide support at home to make the online learning sessions a success. Teachers need to know how to promote learner engagement, control student behaviour and motivate learners during online learning (Ong and Quek, 2023), while parents need to know how to troubleshoot problems that emerge during online learning (Siahaan, 2021). Through this study, suggestions for addressing these gaps are provided.

History has proved that interventions provided without the involvement of the individuals they are expected to impact do collapse. This study explored the lived experiences of the educators working in marginalised early childhood settings. It is critical to give them a voice and the opportunity to participate in matters that affect the lives of children under their care. Spivak (2023), in her study, asked a crucial question on whether those in the margins, which she referred to as the Subaltern, could speak. This study advances the idea of providing local solutions for local problems. One of the ways in which this can be done is through interventions that emerge from research findings. All the recommendations that the study offered emerged from the study participants; hence, the suggested strategies to promote access to online learning are informed by those that have lived experiences of the key issues.

Although international declarations like the Qingdao Declaration (2015) make policy recommendations for utilising ICT's potential to address current educational challenges and ensure fair and equal access to high-quality learning, including lifelong opportunities for online learning, this commitment is yet to be realised in the Zimbabwean context. The literature reviewed and the qualitative document analysis conducted for this study have shown that Zimbabwe has no affirmative policies aimed at promoting online learning in ECD settings in general and for those in disadvantaged communities in particular. The development of policies that speak to the needs of young children in marginalised communities is one of the best ways to promote online learning uptake, as was done in Republic of Kenya (National Gender and Equality Commission, 2011). There is a lack of such a policy direction in Zimbabwe to promote online learning, especially in marginalised communities; therefore, it is crucial to interrogate this in the present study. The study's conclusions advanced the boundaries of knowledge by educating policy-makers on the challenges and strategies or policies

that could be developed to address the issue of marginalisation and online learning in the ECD sector.

The study provides a framework for action that creates access to online learning for ECD learners in marginalised communities. Access to digital facilities is of great concern, and the world's ambition of offering top-notch education to every student by 2030, as reflected in SDG 4.2, will not be realised if this scenario isn't addressed. The development of a framework for online learning that would enable sustainable learning continuity in ECD settings in marginalised rural areas is a significant contribution of this study.

Young learners in these contexts in Zimbabwe and elsewhere in the world, where there are problems with sustainable online learning, will benefit from this research, which provides agency for improvement. The objective of the study is to learn more about marginalisation and access to online learning in ECD contexts since Zimbabwean literature specific to this topic does not address this. The research significantly improved the researcher's capacity to comprehend the concepts of marginalisation and online learning in the target group. It is envisaged that the conclusions will act as a roadmap for future researchers who seek to delve deeper into the gaps in access and adoption of online learning in ECD settings in remote rural communities.

1.4 Problem statement

Despite the global recognition of online learning as an important teaching and learning platform and the call for shifting to digital learning (UNICEF Digital Education Strategy 2025-2030), access to this great instructional pedagogy remains severely limited, particularly in marginalised early childhood settings that face structural barriers to access. A recent study by Kim (2020) reveals that while online learning promotes continuity of learning in a crisis period, learners in underserved communities face structural barriers to shift to such learning modalities. This study addresses a critical issue in marginalised Early Childhood settings which is limited access to digital resources in marginalised ECD settings. The problem lies in limited digital access in

marginalised ECD settings and the absence of specific online learning policies that constrain equitable participation in digital learning.

Existing scholarship on online learning has largely concentrated on digital learning within higher and tertiary education contexts (Meng, Yu, Liu, Pan, Pang and Zhu, 2024, Salamat, Ahmad, Bakht, and Saifi, 2018), offering limited insight into the lived experiences of access and support among young learners in marginalised ECD settings. This absence of lived-experience perspectives constrains the understanding of how learners and educators navigate the realities of online learning under conditions of digital deprivation. This gap motivated this study. The importance of this problem is profound, the limited access to digital resources denies young learners the opportunity to be supported and learn through online learning platforms. In the modern day, failure to access digital resources, especially in crisis times, results in significant learning losses and learners lag behind in terms of acquiring the 21st-century skills necessary for navigating the technology driven economy. This is consistent with Selvaraj, Radhin, Nithin, Benson, and Mathew (2021)'s emphasis that, in a bid to adapt to new forms of learning, it is desirable that all learners have access to digital technologies. In addition, these limitations matter profoundly because they perpetuate historical inequities within the modern digital learning systems, ignoring them risks compounding the exclusion of learners who are already at the margins of health, nutritional and educational access.

The present study therefore contributes both to academic scholarship and to practical strategies for inclusive early childhood digital education by foregrounding lived experiences of access and support, offering insights into how online learning is navigated in practice.

1.5 Aim, Objectives and research questions

The aim, objectives and research questions that inform this study are presented below:

1.5.1 Aim

The main aim of this study was to understand the lived experiences of access and support to online learning in marginalised ECD settings in the Buhera District in Zimbabwe to inform a framework for action.

1.5.2 Objectives

This study is guided by the following objectives:

- a) To examine existing policies that address issues of marginalisation, access, and support to online learning at the ECD level.
- b) To establish what teachers' beliefs suggest about the significance of online learning at the ECD level in marginalised ECD settings.
- c) To explore the limitations to access and support to online learning in marginalised ECD settings
- d) To suggest strategies for promoting access and support to online learning in marginalised ECD settings
- e) To suggest, from the findings of this study, an online learning framework for action for overseeing sustainable online learning in marginalised ECD settings

1.6 Research question

Below is the main research question and the sub research questions that the study seeks to address

1.6.1 Main research questions

How can lived experiences of access and support to online learning in marginalised early childhood settings in the Buhera District in Zimbabwe inform a framework for action?

1.6.2 Sub research questions

- a) What are the policies that exist in Zimbabwe to address issues of marginalisation, access and support to online learning in ECD settings?
- b) What do the beliefs of teachers suggest about the significance of online learning in marginalised ECD settings?
- c) What are the main obstacles to access and support to online learning in marginalised ECD settings?

d) What strategies exist for promoting access and support to online learning in marginalised ECD settings?

e) How can the findings of this study inform an online learning framework for action for overseeing sustainable online learning in marginalised ECD settings?

1.7 The significance of the study

The current study offered great implications for several stakeholders. The key beneficiaries of this study are the learners. In times of crisis, young learners in marginalised communities face severe learning losses due to a lack of infrastructure that promotes continuity of learning, such as internet, electricity, and computers. By exploring lived experiences of access to online learning, the study contributes by providing contextual evidence for access to digital learning regardless of the child's socio-economic status and geographic location. If access to online learning is made a reality for those in the margins of community living, then the world will attain one of its targets of achieving digital inclusion by 2030. Apart from enjoying uninterrupted learning during crisis times, online learning ensures that young learners acquire 21st-century skills needed in the workplace in the digital age. Although scholarship has already established online learning as a child right, United Nations (2021), the study further advocate for every child to experience this right. By advocating for access to online learning for every child, the study promotes digital rights for young learners. Learners with physical disabilities benefit a lot from teaching and learning online, as this reduces the burden of moving long distances in a wheelchair.

This study also contributes to educators' digital skill enhancement. Access to online learning is not possible without teachers' capability to use digital platforms to deliver content to young children. The study explored the lived experiences of teachers regarding online learning in the sites where they work. The insights they gave helped in organising a future training programme that enhances future educators' abilities to navigate online learning environments. The digital skills that teachers acquire during training assist them to further their studies with universities of their choice using online platforms and to engage learners in ways appropriate to their age. The skills are transferred to learners who need them to engage with online learning tools. Teachers with digital competencies can easily advocate for digital learning with young learners

and can be agents for digital transformation in early childhood education. Teachers are part of the digital school readiness that this study called for, hence they should be made ready for this new domain of school readiness through training.

Efforts made to improve access to online learning for learners in marginalised ECD settings can be complete if they address the emerging issue of digital parenting. Parents are critical actors in ensuring access to online learning for their children. This study has a positive contribution to parents. It is recommended that teachers should engage with parents and explore online learning tools with and for them. This will assist them in scaffolding their children during online learning sessions. The suggestion that the government should provide a loan scheme for parents to buy electronic devices for online learning ensures that parents are in a position to provide for their learners.

The study contributed to policy-making. The framework of action developed in this study is meant for policymakers and the government at large to develop specific policies that address the gaps that this study established. The government may use the findings of this study as preliminary data for developing interventions that speak to the realities on the ground. The government could use insights from study participants to see where it needs to intervene. The study recommends a political buy-in to address access to digital learning.

The thesis concludes by emphasising the need to make all ecological systems responsible for children's education ready for digital learning. This can be achieved through the intensification of the existing policies and stakeholder support. The understanding of the challenges of the margins from their voices and views can influence the sustainability of online learning initiatives.

1.8. Conceptual Framework

This study adopted a conceptual framework as a methodologically sound tool for exploring lived experiences of access and support to online learning for learners in marginalised ECD settings. Online learning in marginalised ECD contexts represents an emerging and multifaceted phenomenon that requires the flexibility offered by a conceptual framework to integrate diverse perspectives that a single theoretical lens may fail to capture (Mokhele-Ramulumo and Gumbo, 2025). Additionally, the study

was an emerging and more practice -oriented phenomenon that would need a conceptual framework that would better accommodate real-world complexities. For this study, use of a conceptual framework allowed me to incorporate various concepts related to the study. Furthermore, a conceptual framework offered me room to clarify the relationships and processes involved in the study through a visual map that no existing theories would capture. Finally, a conceptual framework provided a blueprint for data generation and analysis ensuring rigor and coherence in the study process (Maxwell, 2022). The conceptual framework presented several theories that assist in understanding the key concepts of the study. The work framework is informed by interpretive and critical theory paradigms.

1.9 Research paradigm, design and approach

The journey towards the attainment of the objectives of the study was informed by various philosophical underpinnings and methodologies as reflected in the conceptual framework. This section gives a highlight of the above methodological issues

Interpretivist and critical theories provided the lenses through which this study was conducted. The epistemological and ontological assumptions of these paradigms shaped how data was generated and analysed. According to the interpretive paradigm, knowledge is gained by exploring the subjective experiences of people (Pervin and Mokhtar, 2022) while critical theory challenges the structural inequalities in communities (Darder, Hernandez, Lam, and Baltodano, 2023). In studying access to digital learning through the lens of interpretivism, the voices of those experiencing the opportunities and challenges of engaging young learners in online learning will be captured. If any challenges are found to exist that are structural in nature, critical theory will come in to challenge all the structural practices and policies hindering access to online learning.

Studies that are inspired by interpretive philosophical underpinnings are mostly qualitative in nature. For this reason, I chose qualitative research as the approach for the study. This involves in-depth data generation and analysis of data that is not numerical (Creswell and Creswell, 2018). Three qualitative data generation tools, interviews, observation and document analysis were used to generate data from school heads and ECD teachers. Through these qualitative data generation tools, I

managed to explore the lived experiences of access and support by interacting with the participants.

The study adopted a multi-sited case study design to explore access trends to online learning for learners in marginalised early childhood settings. The chosen design helped in collecting thick and rich data from multiple sources, which is critical for triangulating the findings and increases the trustworthiness of the study (Creswell and Creswell, 2018).

1.10 Sampling

Data generation for this study starts with site selection. The study's focus was on sites that are under marginalised contexts. Non-probability sampling was used, with purposive and convenience sampling techniques consulted to determine the sample size. While convenience sampling is not considered the most rigorous approach to sampling, I found it useful to identify my research sites. Those sites with a geographical proximity to me and having a willingness to participate constituted my sample. For participant selection, a purposive sampling technique was adopted. Purposive sampling has several advantages, including the ability to target specific groups relevant to the research question, the ability to collect in-depth and rich data, and the potential for greater participant engagement and cooperation (Malek, Lim, and Tahir, 2019). According to Thomas (2022), the greatest drawbacks of purposive sampling are the potential for bias in the selection of the participants. I chose purposive sampling to ensure that the sample selected aligns with the research objectives. This approach enhances the trustworthiness of the data and findings obtained in the study.

1.11 Data generation tools

The study adopted three data generation tools appropriate for qualitative data, which included semi-structured interviews, observation, and document analysis. For document analysis, a variety of policies and regulations were analysed to check their goals and clauses related to online learning and the reduction of marginalisation. Documents were accessed online. The analysis of the policy data followed the qualitative document analysis by the Institute of Development Studies (ILT, 2013). The analysis process starts by setting the inclusion criteria for the documents and

identifying the key areas of analysis. The collected policies were scanned following the key areas of analysis. The generated data was analysed, interpreted and a discussion of the findings was offered using themes.

The other data set emerged from observation. Six sites were observed during the days the interviews were scheduled. I was interested in observing the sites' physical surroundings, closeness to network boosters, availability of ICT devices and internet connectivity that were readily available to assist online learning, prices for devices such as laptops, tablets, smartphones and internet connectivity in service shops near the sites, teacher competence in using ICT devices and student confidence and engagement with ICT tools. The observation process starts by planning. I scheduled the observation in advance, covering the time, date, and length of the observation as well as any interactions or activities I wanted to pay attention to. I consulted the participants on whether the proposed date and time for observations were conducive. There was an agreement on the proposals. On the day of observation, I took thorough field notes on everything I saw while conducting the observation. The notes provided a dataset for presentation, analysis, and interpretation of the observed data. To minimize interruption to the environment and prevent influencing the participants' behaviour, I did non-participant observations (Sanchez, 2025). The observed data were analysed and discussed together with data that emerged from the semi-structured interviews.

The participants of this study comprise two district officials, six school heads, and twelve early childhood teachers. The school heads were identified as SH1 to SH6, while teachers can be coded as TR1 to TR12. This gave a total sample of 18. The interviews were semi-structured, and a face-to-face interview was conducted and audio recorded. Participants met the specific demographic requirements or possessed additional qualities related to the study issues at hand. Participants were drawn from teachers who work with young children between the ages of four (4) to six (6) from marginalised communities. To participate in the study, participants had to provide consent after an information session. Participants who were unable to give informed permission such as those with cognitive disabilities or linguistic problems were not approached to be part of the study.

1.12 Data analysis

Data from semi-structured interviews was analysed guided by Braun and Clark's (2021) Reflexive Thematic Analysis Model, while data from policy documents was handled guided by Qualitative Data Analysis QDA theorised by the Institute of Development Studies (2013). The use of Braun and Clarke's reflexive thematic analysis model helps in compiling, disassembling, reassembling, interpreting, and making research conclusions (Byrne, 2021). This thematic content analysis is a six-step model and the analysis is not a sequential process. This allowed me the freedom to move about freely as required throughout the phases. These phases include becoming familiar with the data, creating preliminary codes, looking for themes, looking over themes, defining and labelling themes, and finally producing the report (Braun and Clarke, 2021). The theme construction was sensitive to the research questions.

The document analysis adopted the QDA (ILT 2013) model, which is also a six-step framework for analysing data from documents. The process involves setting inclusion criteria for documents, for example, the time limit (last ten (10 years). After setting the inclusion criteria, policy documents were collected from the public domain. Using the pre-determined areas of analysis, policies were scanned, and clauses related to the key areas of analysis were noted. Data from the documents is coded and analysed to establish themes related to the research questions. The other phase within the analysis process was to engage someone to verify consistency in the process and trustworthiness of the coding and assessment. My supervisor assumed this critical role of verifying my analysis process.

The findings from the three data generation tools were analysed together, by comparing the themes generated from semi-structured interviews with the insights gained from the observed and document analysis data. I looked for areas of convergence or divergence among the three data sets.

1.13 Trustworthiness of study

Although a study by Montuschi (2014) highlights the difficulties of ensuring trustworthiness in research based on its subjectivity, there are however, some ways

of ensuring rigor in research. I utilised the principles of dependability, conformability, credibility, and transferability to ensure that my study can be trusted. This is fully explained in chapter four on methodology.

1.14 Ethical considerations

Apart from seeking ethical clearance from UNISA as well as from the Ministry of Primary and Secondary Education in Zimbabwe, as seen in Appendix (B), I also ensured that the research ethics a researcher needs to abide by are followed to govern how my scientific research was carried out (Davidson, 2020). For this study, the ethical principle of informed consent (Appendix D) guided my research processes. I provided the research participants with information regarding the objectives, potential dangers, and anticipated benefits of the study, as well as a statement permitting them to withdraw their participation from the study at any moment, as advocated by Olivier (2020). The confidentiality of participant information is another attribute of an ethical study. An explanation was given to the participants that the data they provided, including the recordings, was strictly treated as confidential and was only meant for research purposes. One of the moral principles governing scientific research is beneficence. It alludes to the benefit that the public receives because of the research. According to the beneficence principle, research harms must be kept to a minimum and reasonable (Ashley, 2021). For the beneficence component of ethical considerations, I planned and carried out the current study with the welfare of the participants as its main objective. Participants were made to understand that by contributing ideas and views, they also get an important insight into online learning, and their children will eventually benefit the most. Finally, this research is also governed by the principle of non-maleficence, which emphasises protecting research subjects from harm (McKenna, 2020). The subject's safety was my concern throughout the study process. I assured my research participants that there were no likely risks of harm associated with the study, and I took every effort and action to ensure that their rights were not violated.

1.15 Delimitation of the study

Delimitation, according to Theofanidis and Fountouki, (2018) refers to the setting of boundaries around which the study is to be conducted. The research took place in remote rural areas of Buhera District Manicaland province in Zimbabwe. The study's central theme is access to digital resources for ECD learners in marginalised settings. The study focuses on the lived experiences of access to online learning for six (6) school heads and twelve (12) early childhood teachers in Buhera District. These participants were chosen for their knowledge of the research problem. The study also explored the issue of access to resources through observation of the sites under study.

1.16 Limitations of the study

No matter how careful a researcher may be in the research process, the research is likely to face some limitations. Since it was my first time to carry out research of this magnitude, I have limited knowledge and experience with research processes pitched at a scholarly PhD level. This limitation was likely to influence the research activities and outcome. I continuously sought guidance from my supervisor to ensure that this limitation does not water down the depth and rigor of the study.

The use of convenience sampling although provided a pragmatic lens for adapting to infrastructural barriers and recruit those accessible and willing to participate, it leaves room for not representing those in the hard to reach localities. In this study, convenience sampling was used in combination with purpose sampling to provide a methodological triangulation that reduces the limitation of using convenience sampling alone.

I used a small sample size since it was not possible to recruit more participants for a qualitative study that emphasise depth over breadth, this restricts the generalisation of the study findings. Additionally, the small sample size may make it difficult to capture the voices of those in extreme exclusion, such as those living with disabilities. This limitation creates a gap for future study where access and support to online learning may be explored with those with disabilities in mind.

Time and power constraints have impacted the timely progress of the study. I had work commitments that conflicted with my study schedules. This affected my work plans. Apart from work schedules, power disruptions, which characterise most of the Southern African nations, also contributed to delays in meeting deadlines. With all these hurdles on my table, I remained resilient and worked an extra mile to ensure that such limitations would not hold me back.

1.17 Chapters overview

An overview of all the chapters in this study were provided below:

1.17.1 Chapter 1

Chapter one is the first chapter of the study. It commences by a brief introduction of the background to the study. In this section, the study's problem was discussed - access to digital infrastructure for early childhood learners learning in marginalised early childhood settings. The historical factors surrounding the problem were also raised. The background to the study concluded with the contextual setting of Zimbabwe. Zimbabwe's remote rural areas are marginalised and they endure inequalities in terms of infrastructural, economic and technological advancement. This makes the context a prime ground for exploring access to online learning for ECD learners. After the presentation of the background to the study, the rationale and statement of the problem were explored. During this phase of the study, the reasons for undertaking the study were highlighted, and the research gap that the study intends to fill was provided. The study was guided by a set of research questions, which provided the parameters of the study. Under the significance of the study, participants of the study were identified and a short description of how each participant benefit from the research was given.

1.17.2 Chapter 2

This chapter is the second section of the study that reviewed the current literature related to the lived experiences of access to online learning for young learners in marginalised ECD settings. It covered several concepts, including the historical context of the study, teacher beliefs about online learning, factors that hinder access to online learning in marginalised communities, and suggested strategies for promoting digital access. Literature was drawn from multiple sources and theories,

exploring how colonial legacies, infrastructural, pedagogical and policy factors interact to shape online learning access in marginalised ECD contexts. Overall, reviewed studies consistently show that access to online learning is determined by the readiness and capacity of interconnected systems.

1.17.3 Chapter 3

The chapter provided a detailed analysis of the conceptual framework that guided the research study. In this chapter, key concepts of the study and the theories guiding each concept were identified. The concepts covered include online learning, teacher beliefs, policies, marginalisation, teacher agency, and systems change. The online learning concepts are explored through the actor network theory, teacher beliefs through cognitive dissonance theory, marginalisation through post-colonial theory, teacher agency through social learning theory, social change through systems thinking theory, and policies through ecological systems theory. The conceptual framework has theories that are purposefully aligned to themes. These theories ensure that findings are not only just described but are interpreted, explained and positioned within broader theoretical discourses. A graphical representation of the conceptual framework was provided to show these concepts and theories. The chapter also highlighted the interconnectedness of both the concepts and the theories. By establishing a clear and well-defined framework, this study aims to contribute to the understanding of the research topic and provide a solid foundation for subsequent analysis. This framework was instrumental for integrating, connecting and translating findings into meaningful insights. Its concepts-oriented nature allows for multi-level analysis of the data.

1.17.4 Chapter 4

Chapter 4 presented the study's methodological orientation, shaped by the philosophical framing of two paradigms, the interpretive and critical theory. The use of a dual paradigmatic lens was critical for capturing the lived experiences of the participants while interrogating the power dynamics that shape their realities. The chapter concludes that by integrating interpretive and critical perspectives, the subjective meanings participants ascribe to their online learning experiences and the power relations, social-political constraints, and systemic exclusions are better understood. This enriches the study's objective to engage with issues of digital equity

and educational justice. Based on this conclusion, participants of my study were not merely a source of data but epistemic agents whose insights and experiences actively shape the research narrative. Their voices were not only heard but were instrumental in knowledge construction.

I chose qualitative research approach as the methodological choice. The use of this approach allows for the valuing of participants as experts in their lived experiences and has proved to be effective in generating rich insights into digital learning. The qualitative approach provided the lens to effectively explore the research questions. I used a multi-sited case study as the research design, and it significantly allows for the capturing of views across multiple ECD settings in Buhera District, thereby promoting triangulation of data. The design provided a broader lens for understanding the opportunities and challenges surrounding the online learning initiatives for marginalised communities. I employed purposive and convenience sampling as techniques for participant selection. The two sampling techniques were both relevant to the credibility and practical feasibility of the research. I generated data with participants using semi-structured interviews and observation, ensuring that I have a rich dataset for my study. I needed a framework for effectively engaging with the data, Braun and Clarke (2020)'s reflexive thematic analysis was chosen to cover this gap. In all the research processes, I upheld strong ethical standards. Lastly, I acknowledge that no research is without some limitations; for this study, I took financial constraints and the potential gaps in participants' knowledge as the study's limitations. These limitations underscore the realities of conducting research in marginalised contexts.

1.17.5 Chapter 5

Chapter 5 was the first findings chapter that focused on presenting, analysing, interpreting, and discussing the data generated with participants to answer the research question: What policies exist to address the issue of marginalisation and access to online learning for learners in underserved communities? Exploring the policy landscape within online learning was critical for understanding how policies align with the digital learning agenda and the policy transformations that may be needed to achieve digital inclusion, particularly in underserved communities.

The study reveals that colonial policies and practices laid the foundation for linguistic marginalisation. Not only were the colonial policies laying the foundation for linguistic marginalisation, but they also acted as structural tools for promoting rural underdevelopment. This study provides insights into the structural achievement gaps between children from the elite and those from poor families. The colonial education system set the stage for children from the elite families to be successful in upward social class mobility by making pre-school education a privilege for children from the rich families. In the modern day, the study confirms the perpetuation of colonial legacy, particularly in ensuring that children from elite backgrounds have access to resource-rich schools that allow them access to digital tools. The English language is still a medium of instruction despite the language policy that compels schools to use local languages for learners in the infant module. The chapter highlights gaps regarding national policies in Zimbabwe. It emerged that several policies exist to address the marginalisation issue. Most of these policies have gaps, especially in the implementation and funding phases. The study underscores the absence of specific policies to address digital learning concerns for learners in marginalised early childhood settings.

The identified findings directly address the research question by highlighting both the existing colonial and contemporary policy landscape in Zimbabwe, citing policy gaps. This is critical for transforming the existing and developing new policies that meaningfully and sustainably address issues of marginalisation and access to online learning.

This study contributed greatly to the field of digital learning by calling for a critical re-evaluation of both contemporary and historical policy frameworks. The study, through the lived experiences of the participants and document review data, exposes gaps in existing policies regarding their effectiveness in promoting digital learning and supporting the full eradication of marginalisation in Zimbabwean rural communities. In this study, I advocate for decolonisation of the early childhood educational practices, enforcing inclusive online learning standards. Thus, the study views the transformation of existing policies as imperative for pushing the online learning agenda for marginalised ECD settings forward. The study findings have implications for policy development, funding and implementation.

1.17.6 Chapter 6

This chapter was the second findings chapter that addressed two of the study's research questions and the objectives. This study explored the lived experiences of access and support to online learning for early childhood learners in marginalised early childhood settings. From the results of the study, it was evident that online learning for marginalised communities currently faces challenges in the form of limited digital skills for learners, parents, and teachers, inadequate professional development for pre-service teachers, and limited access to internet facilities and resources. The study calls for a systemic support model where different service providers form a coordinated network of support to ensure all the conditions necessary for digital learning for learners in marginalised communities are put in place.

Previous studies have highlighted the need for online learning in ECD, putting forward a number of suggestions that could help to make use of online learning a success in the early years. However, little research had identified online learning as a child's right, and none of the studies suggested the inclusion of digital learning as a new domain to the existing traditional school readiness domains. Apart from bringing digital learning as a child's right and a domain of school readiness, the findings of the study could also contribute to teacher training policy-making and online learning delivery for learners in marginalised communities. The study prioritised involving participants from marginalised communities as part of the solutions to the problems they face. Normally, local solutions to world problems are sustainable. Prior literature on school readiness suggested that parents, schools, and teachers needed to be ready to promote the traditional school readiness domains among the pre-schoolers. Similarly, these actors, together with the government and its related ministries, donors, network providers, and technology companies, need to be ready for young children's online learning.

1.17.7 Chapter 7

Chapter 7 is the third findings chapter of the thesis. It explored major themes that were derived from the dataset. In the discussion, the concept of marginalisation was explored, and in terms of online learning, it was seen as a socially embedded process of exclusion, depriving some learners of the right to benefit from the advantages that digital learning brings. Marginalisation was framed as an outcome of structural

injustice that affects mostly those living in remote rural areas, the disabled, and women. It emerged from the discussion that participants had an experiential knowledge of how marginalisation manifests in life. This awareness of the various groups that are affected by marginalisation helps in providing interventions that are locally grounded and assist in the development of a strong policy framework tailored to the identified marginalised groups.

The chapter also discussed teachers' digital competence gaps and training needs. It was discussed that teachers have various digital needs, which, when not addressed, stand as barriers to their participation in learners' online learning. These include a lack of familiarity with computers and digital tools, insufficient learner management skills, content creation, and limited capacity to motivate, engage, and assess young learners during online learning sessions. The identified gaps reflect a broader structural gap in teacher training that needs to be urgently closed. There is a need to reimagine teacher training, tailoring it to the digital needs of teachers.

The chapter concludes by discussing systemic challenges to online learning in marginalised ECD settings. These include infrastructural and resource constraints, lack of coherent policy frameworks, health and safety concerns, as well as stakeholder beliefs. These findings echo global calls for inclusive access to 21st-century skills, including online learning; hence, a permanent solution to the digital challenges is urgently needed. The chapter concludes by stressing that without proper mechanisms to address structural barriers in underserved communities, access to online learning remains unattainable.

1.17.8 Chapter 8

This chapter was the final findings chapter that aimed at eliciting context-specific strategies from participants that could promote access and support for online learning among young learners in marginalised early childhood settings. The findings underscore the critical role of four interconnected ecological systems to online learning access for learners in marginalised early childhood settings: the family, the school, the national policy landscape and the teacher training systems. It emerged that families in marginalised communities lack the social and economic capital to support children's online learning. The study found that lack of access to digital resources at home

contributes largely to the broader digital divide. The school system emerged as both promoter and inhibitor of online learning. While schools possess the potential to advance online learning, teachers' lack of digital competencies as well as limited digital infrastructure, such as electronic devices, electricity, and the internet, significantly affects meaningful integration of online learning in marginalised ECD settings. Additionally, the national policy frameworks were found to be insufficiently responsive and lack sustained support for online learning. Moreover, the teacher training systems were found wanting in terms of producing pre-service teachers with an adequate digital skill set. This was attributed to lecturers' limited digital competencies and inadequacies in technological infrastructure.

These findings imply that digital marginalisation at home significantly contributes to the broader digital divide which characterises most underserved communities in Africa. To address this, there is a need to pay special attention to parents' digital literacy and their access to digital resources. The findings also revealed that the lack of schools' capacity to advance online learning initiatives due to limited access to internet connectivity and devices further marginalises the already marginalised populations. Based on findings on national policy landscapes which were found to have silences on sustainable means to promote digital inclusion, moving forward, it is critical to have improved state investment towards electrifying schools, connecting them to the internet and to prioritise digital inclusion in national development agendas. Lastly, the findings underscore the need to reimagine teacher training curriculum, tailoring it to the online learning needs of teachers in the digital age. Overall, the study advocated for a shift from rhetorical commitments to actionable strategies that position online learning as every child's right.

1.17.9 Chapter 9

This chapter offers a detailed summary of the research processes, reviewing how the chapters were structured and what was found. The chapter is the study's final reflection of the research developments and scholarly contributions. It comprises several thoughtfully developed sections that open with a revisit of each chapter, summarising the central themes and significant findings that shape the study. The chapter drew conclusions based on the research questions, determining the degree to which the research questions have been addressed. Through this process, the

study concludes by presenting the impact and implications of the study to theory, policy and practice. This section offered insights to teachers, researchers, policy makers, the government and other stakeholders looking to sustainably implement online learning in underserved ECD contexts. The chapter uncovers exciting suggestions for future study and concludes with a presentation of the Mapuranga Framework for Action, which is the study's original contribution to knowledge in the field of digital learning. The Mapuranga Framework for Action is anticipated to open new possibilities for continued research exploration and practical implementation of the digital learning initiatives, making a significant contribution to early childhood education research.

CHAPTER 2

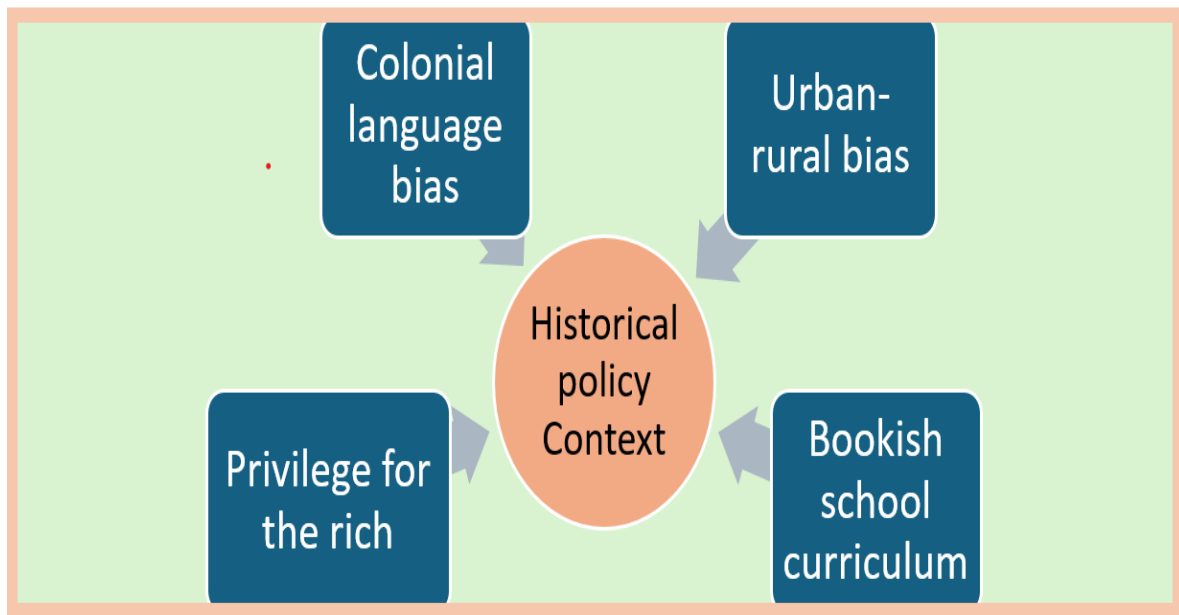
Literature review

2.1 Introduction

The previous chapter (Chapter 1) explored the study context, rationale and the background of the problem being investigated. This chapter focuses on the literature review. Specifically, a thematic literature review was chosen as it allows for a synthesis of findings across diverse sources. It assists in the clarification of complex topics where the research spans multiple dimensions. In addition, a thematic literature review enhances the identification of gaps and trends within the literature that warrant further exploration. The literature review is divided into five sections, which are policies that address marginalisation and online learning, teachers' beliefs and practices on online learning in ECD, challenges of the margins, adoption of online learning in marginalised ECD settings, and the suggested strategies to promote online learning among the ECD learners in marginalised communities.

2.2 Historical policy context and marginalisation of communities

The literature review process started by understanding the historical contexts of the study and its relevance. The exploration of the historical policies and practices illuminated the systemic roots of digital exclusion and educational marginalisation of ECD programmes. By situating the online learning across time and space, the study positions the current digital access issues within broader socio-political trajectories. This historical analysis of policies and practices was organised into the following sub-themes:



Source: Compiled by the author

Figure 2.1 Colonial policies and practices

2.2.1 Colonial language bias

Historical language policies developed in the colonial times made the colonised African population to abandon their language and culture and adopt the imposed foreign language as their official language and the medium of instruction in schools. This calculated move was aimed at advancing imperialistic influence and knowledge control. Dascomb (2019) confirmed that the imposition of language was a broader way of advancing imperialistic goals and control over the colonised people, a practice that robbed locals of their right to their mother language. Historical language policy is a weapon of cultural destruction and it leads to language shifts, extinction, and, perpetuating neo-colonial linguistic approaches post-independence (Tavarez, 2024). From the lenses of Kaschula and Kretzer (2019) white supremacy-imposed language policies which marginalised indigenous languages and cultures. Laitin, Ramachandran, and Walter (2019) further confirm that the imposition of the foreign language on African soil has created a colonial language regime the marginalised local languages and the legacy of such policies are experienced today through continued use of English language in the post –colonial education system.

2.2.1.1 Synthesis of literature of colonial language bias

The literature scanned on the sub-theme, colonial language bias, strongly revealed that colonial language policies marginalised the indigenous languages, and the policy also led to cultural erasure. With reference to the historical imposition of colonial language, divergence exists in linking the colonial language bias to contemporary practices. Tavarez (2024) highlighted contemporary neo-colonial language policies, with others such as Laitin, Ramachandran and Walter (2019) maintaining a historical lens. The contradictions may be a result of differences in methodological approaches, with other scholars using policy analysis, while others draw conclusions from ethnographic data. However, a critical gap remains in examining how colonial language policies and their legacies intersect with digital marginalisation, particularly in post-colonial education systems where learners from underserved communities face compounded barriers. Language functions as a gatekeeper to online content and digital tools, meaning that linguistic exclusion translates into restricted access to knowledge and participation in digital learning. Thus, synthesising these viewpoints reveals that colonial language bias is not merely a historical concern but a contemporary obstacle to digital justice, reinforcing structural inequities in marginalised African contexts and necessitating deeper interrogation in studies of online learning

2.2.2 Urban –rural bias

Apart from linguistic and cultural suppression, the colonial tendencies of prioritising urban development exacerbated rural marginalisation. A study by Cowie, Townsend, and Salemin (2020) confirmed that those responsible for digital advancement normally favour urban areas, and this tendency is likely to marginalise rural places further. The colonial focus on urban infrastructure development created a digital divide that stands as a barrier to online learning access for marginalised communities (Henry, 2019). This urban bias, a concept popularised by Lipton (1976), led to disproportionate resources allocation favouring urban centres at the expense of rural populations. This was also observed by Sechele (2016), who posits that state resources have consistently been concentrated in urban areas, leaving rural development behind. Cheng and Sandfort (2023) corroborate this, noting that policymakers and the

government often neglected marginalised areas in development planning, resulting in disparities in access to digital resources. This urban bias in the economic development process resulted in the concentration of economic and technological improvements in urban areas, leading to an allocation of state resources that favoured urban priorities at the expense of national justice and efficiency. The colonial era masters set up a border between the haves and the have-nots. This neglect underscores the structural inequalities rooted in colonial policies (Salemink, Strijker and Bostin, 2017) and the widened digital divide, limiting access to critical educational resources, including for digital learning in marginalised communities (Costache and Enachescu, 2025). The enduring legacy of colonialism continues to pose significant challenges for marginalised communities. Children from marginalised communities today still lack access to quality early education due to limited internet connectivity and inadequate access to digital devices (Plotka and Guirguis, 2022). Addressing these disparities requires an understanding of the historical context and a concerted effort to dismantle structural inequalities rooted in colonial practices.

2.2.2.1 Synthesis of literature on urban-rural bias

Scholars concurred that urban centres received top technological development priorities from colonial masters, leaving remote rural areas structurally underserved. This bias contributed greatly to the present digital divide that characterises the rural areas, putting them at a disadvantage, especially when it comes to digital learning. No critical divergence was noted; however, a slight theoretical framing exists which do not necessarily dispute the existence of the bias. Lipton frames the issue through economic theory while Cheng (2023) and Salemink (2017) offer more contemporary development critique. Although studies exist that seek to address the digital divide, few studies have explored the success stories of specific interventions developed to deal with the issue of urban bias. Furthermore, a scan through the literature reveals a gap in how contemporary technology policies reproduce or redress these historical imbalances. Taking a leaf from the colonial urban-rural bias practices is critical for providing insights into how colonial injustices manifest in the modern world and how to make use of inclusive policies and intervention models to ameliorate this situation. The current situation calls for a more localised case study which contextualises the existence of digital marginalisation and its impact, especially in remote rural areas.

2.2.3 Privilege for the rich

Colonial education system ensures that only learners from rich families had access to quality education Mugweni (2017). This contributed to a cycle of educational marginalisation and disadvantage (Phongsopha and Pholphirul, 2018). The research by Amoako (2020) reinforces the fact that during colonial times, formal education was primarily accessible to privileged children, while children from low-income and remote homes were largely excluded. A recent study by Singh (2024) in South Africa revealed that colonialism is still manifesting itself in educational practices by using the educational content that reflects the culture of the elite learners and neglecting those of the poor black children.

Exclusion from school, as given by Atinc and Guustafsson-Wright (2013), robbed learners of a precious opportunity to acquire critical knowledge and skills at a young age, which hampered their social, psychological, and cognitive development. They frequently resided in places with a dearth of public preschools or none at all, and they lacked the financial resources to attend private preschools (Woldehanna, 2016). They missed out on the opportunity for overall development that preschool education offers as a result. This colonial practice finds a room in the post-colonial period as reflected in a study by Caslin (2021), which highlights that learners' exclusion had gained momentum since 2012. To address this issue, Duffy, Robinson, Gallagher, and Templeton (2021) propose the development of inclusion policies as a counteraction to colonial policies of exclusion.

2.2.3.1 Synthesis of literature on privilege for the rich

Literature reviewed concurred on the existence of exclusionary practices in the colonial education systems. Both Mugweni (2017) and Amoako (2020) agree that early childhood education during colonial times was accessed only by learners from the elite families, with learners from disadvantaged families left behind. The literature also converges on the long-term impacts of exclusionary policies on learners from marginalised communities as articulated by Atinc and Gustafsson-Wright (2013) and Woldehanna (2016). According to Phongsopha and Pholphirus (2018) and Sighh (2024), the legacy of colonialism, particularly with respect to perpetuating and

disadvantaging the rural learners, is still evident in contemporary education practices. This colonial pattern continues to privilege elite knowledge systems and cultures. These research studies revealed the continued legacy of colonial practices and how they shape the present early childhood education. Despite the agreements that emanated from literature, there are some contradictions in the ways that authors frame the significance of colonial education in the modern early childhood education system, as evident from Singh (2024)'s argument that in South Africa, colonialism remains a significant force shaping curriculum. Similarly, Amoak (2020) regards colonial exclusion as largely historical. In contrary, Dufft ...et al. (2021) and Caslin (2021) argue that learner exclusion is still rampant in recent years and can be addressed through policy responses that can reverse the colonial damage. The literature, although rich in claiming historical practices and policies as responsible for educational exclusions, gaps still exist in practical ways of decolonising the ECD education, especially in online learning. The reviewed literature highlighted the manner in which historical injustices continue to shape access to early childhood education, thereby underscoring the significance of historicising exclusion in both policy and practice.

2.2.4 Bookish school curriculum

African societies historically exhibited significant ingenuity as witnessed by the production of glass beads in West Africa, and blacksmithing in Sub-Saharan Africa (Babalola, 2017). These technological practices were important to societal living, positioning African nations as hubs of creativity and innovation. However, the advent of colonial policies and practices disrupted these indigenous technological knowledge systems, replacing them with a Western-oriented, text-based education system. Pankhurst (1972) claimed that there was a deliberate effort to exclude colonial subjects from acquiring modern technological knowledge. Abraham (2020), in a similar vein, affirms that colonial education systems were narrowly focused on literacy, with minimal emphasis on practical skills. This disorientation of the colonial subjects from technological traditions explains the subsequent challenges in technological adoption in African contexts. By bringing historical inequalities to the fore, this study challenges the narrative that African communities are unsuitable for technological advancement.

2.2.4.1 The synthesis of literature on bookish school curriculum

The reviewed literature concurs that African societies used to be advanced centres for technological innovation, as demonstrated through glass bead production in West Africa and blacksmithing across Sub-Saharan Africa. Based on this evidence, Africa once had thriving indigenous technological traditions, innovating and producing knowledge in their own right. This is contrary to Western epistemology, which portrays Africa as a passive consumer of Western knowledge. There is a strong consensus among scholars that the colonial education introduced a bookish system that was detached from the technological traditions of African communities, thereby eroding the African indigenous knowledge systems, as demonstrated by research work from Pankhurst (1972) and Abraham (2020). From their perspectives, there was deliberate exclusionary practice by the colonial government that was meant to block colonised populations from acquiring modern technologies. This was done by emphasising literacy at the expense of technological skills. These views underscore the exploitative nature of colonial systems and how they disempower the previously empowered race.

The principal point of contradiction within the reviewed literature concerns the possibility for Africans to reclaim their agency in technology advancement. Babalola and Oni (2021) holds an optimistic stance, believing the indigenous ingenuity may provide an avenue for reviving African traditional foundations. On the contrary, Pankhurst (1972) adopts a more pessimistic stance, emphasising the likelihood of reviving the indigenous knowledge system due to the structural persistence of colonial disadvantage. Although the reviewed literature largely explored the historical disruption, it paid little attention to how these colonial legacies continue to shape contemporary digital education. Conclusively, the recognition of Africa's historical innovations challenges the Western epistemologies and informs the decolonisation of the educational landscape.

The colonial-era policies discussed above continue to shape unequal access to online learning today. Case studies from Africa and beyond show how these legacies manifest in digital exclusion, limiting support for marginalised communities. In South Africa according to Singh, (2024) the curriculum content remains dominated by English, sidelining indigenous languages. Online learning platforms reinforce this bias,

as most digital resources are produced in English or other colonial languages. Learners from rural or indigenous backgrounds struggle to access culturally relevant material, perpetuating exclusion. Another South African scenario emerges from a study by Caslin, (2021) who posits that digital exclusion persists in early childhood education, with digital resources reflecting elite cultural contexts. Poor black children are left behind, reinforcing colonial inequities. In Ghana as given by Amoako, (2020) colonial education was historically accessible only to elite families. Today, affluent households can afford private internet subscriptions, devices, and online tutoring, while poorer families remain excluded. This reproduces colonial patterns of privilege in digital learning. In Ethiopia, colonial education emphasised rote literacy over indigenous technological traditions. This legacy persists in digital learning, where African learners are positioned as passive consumers of Western-produced content rather than creators. Zimbabwe, particularly in Buhera District rural schools lack internet connectivity and devices, while urban centres benefit from concentrated investment. This reflects colonial-era prioritisation of urban development. Even with initiatives like GIGA internet installation, rural communities remain disadvantaged due to subscription costs and lack of supporting infrastructure.

2.3 Current policy context and access to online learning

The current policy context and access to online learning was explored mainly from the perspectives of global agency such as United Nations (UN), UNICEF and UNESCO. These agencies contributed universal trends in technology integration. Almost all of the international bodies assume that digital inclusion is a Universal Right. For instance, United Nations believes that digital divides amplify existing inequalities, so closing them is central to achieving the Sustainable Development Goals 4 (SDG). UNICEF assumes that every child should have access to digital learning opportunities, regardless of geography, gender, or socioeconomic status. Digital integration is framed as part of the Convention on the Rights of the Child ensuring education, participation, and protection in the digital age. They also assume that clear metrics and frameworks are needed to ensure marginalised groups benefit from digital transformation.

Marginalisation is a worldwide issue with harmful consequences for civilizations (Mowat, 2015). In most countries, it is a source of worry. The most effective method to combat educational marginalisation and mitigate a generational learning disaster is for everyone to take immediate action (United Nations, 2020). The United Nations also indicated how policies and regulatory frameworks are required to overcome marginalisation. Policy development is a solution for addressing global educational marginalisation and encouraging ECD settings to utilise online learning. The development and implementation of public policies aimed at excluded groups is a panacea for solving this worldwide issue. When confronted with difficulties, the world does not usually fold its hands and look; instead, policies are formed to address the issues.

The world has come up with a series of conventions and treaties to confront exclusion and marginalisation in rural areas, specifically, the Sustainable Development Goals (SDG) 4 of 2015 which commits to guaranteeing education for all children and lifelong learning opportunities for all, as well as the Dakar Education for All declaration (2000), which is committed to achieving universal access to education at all levels by that year. However, the world continues to witness educational inequalities. Those who are in marginalised communities are the ones who suffer the most (Lloyd, 2015). The SDGs are based on the moral imperative that no goal will be considered achieved unless it is achieved for all (Ruto, Gachoya and Ngindiru, 2022).

UNESCO (2015)'s Incheon Declaration pledged to address all types of marginalisation and exclusion, as well as inequities and disparities in access, participation, and learning outcomes. Improvements in educational policies aimed at the most disadvantaged were asked for in the declaration. The Qingdao Declaration (2015), on the other hand, makes policy recommendations for using the potential of ICT to address contemporary educational difficulties and ensure equitable access to high-quality learning, including lifelong opportunities for everyone. The Qingdao Declaration (2015) is a global commitment to use ICT to its greatest potential in terms of online learning access and inclusiveness. Nations have struggled to ensure that their residents in impoverished areas are assisted in meeting the obstacles they confront in their lives, but it appears that the aim is still a long way off for some. Reaching marginalised children, according to UNESCO (2010), necessitates political commitment complemented by concrete policy. Marginalisation, according to

UNESCO, is the result of institutionalised disadvantage as well as policies and practices that sustain it.

It is worth presenting what other countries have done to solve the issues encountered by those living in neglected rural communities. Most Roma people in Europe live on the periphery of society, with limited access to health care, jobs, and education, and in "criminal" communities (Dragomir, 2019). According to Kahanec (2020), the Roma population is at risk of poverty and social exclusion, with children facing segregation and discrimination in elementary schools alongside widespread and unjustifiable enrolment in ethnically separated special schools and classrooms.

The European Union is making strenuous efforts to remove the Roma people's marginal status. A few of the EU policies that promote Roma inclusion include policies on education, health provision and employment (Vermeersch, 2017). According to Balidemaj (2021), various documents have been sponsored and adopted in order to reduce the Roma's social and economic marginalisation. The EU strategy for national Roma integration initiatives was put out by the European Council and the European Union's Parliament in 2011 as a new policy tool to combat social exclusion. This framework encourages member states to create or adopt national Roma integration policies (European Commission, 2019). In terms of education, particularly in the area of online learning, the Vienna University of Technology launched "Head in the Clouds" with the goal of developing a digital learning program aimed at improving academic achievement amongst Roma students in Europe (Novak, Rabiee and Tjoa (2016). The Head in the Clouds project's goal was to improve Roma students' learning quality by introducing new teaching and learning methods centered on digital technology and computer programming skills (Novak, Rabiee and Tjoa, 2019). What European communities accomplished was by far the most appropriate technique for particular groups to deal with issues in a specific area. Affirmative policies aimed at specific categories of people are constantly needed.

Affirmative action is an important tool for combating discrimination in educational access in a variety of circumstances. Brazil has developed affirmative action measures targeting Afro-Brazilians and other oppressed communities (Heringer, 2024). When the Brazilian government attempted to address the educational marginalisation of Afro-Brazilians who were underserved in higher education in Brazil, they adopted a set of

legislation requiring colleges to set aside 40% of their seats for Afro-Brazilians (Lloyd, 2015). Affirmative action programs were employed in India to address the marginalisation of castes and scheduled tribes (UNDP, 2010).

Australia is a prosperous country with some of its residents living in isolated, marginalised places. Australia is one of the countries that recognises the need of addressing community marginalisation as bearing significant benefits for development of the nation and inclusive growth (UNDP, 2010). In order to be more accommodating to indigenous communities, the Australian Government has also been creating new strategies and programs to encourage the engagement of indigenous peoples and construct whole-government coordination mechanisms since 2004 (Australian Government, 2013).

Policies are used to direct actions in Sub-Saharan Africa's underdeveloped regions. A National Gender and Equality Commission was established in Kenya by an act of parliament to advance gender equality and the absence of discrimination for all Kenyans in all facets of life, with an emphasis on Special Interest Groups, such as minorities and underrepresented groups (Aschman, (2014). Kenyan constitution of 2010 provided optimism for addressing the concerns of marginalised populations. It focuses on such people's demands and interests, as well as how the government might best respond to their issues. The Kenyan constitution, according to the National Gender and Equality Commission (2014), offers marginalised people legal respect and acknowledgement. Kenya's government established a new Commission on Revenue Allocation with the goal of establishing an equal society to ensuring that marginalised people are cared for (Commission on Revenue Allocation, 2015).

Marginalised groups exist in Zimbabwe, as in any other country. Rural communities in Zimbabwe have been marginalised, according to Siambombe (2015), as indicated by a wide developmental disparity between them and metropolitan groups. In terms of online learning resources, urban areas fare better than remote rural locations. The state must take appropriate legislative and other initiatives to strengthen the achievement of equality and to safeguard or promote individuals or classes of people who have been harmed by unfair discrimination, according to the Zimbabwean constitution as revised in 2018.

In several countries, policies have been devised to address concerns of marginalisation and the uptake of online learning in ECD contexts. The Global Education for All (2010), the Sustainable Development Goals (SDG) 4, the Incheon Declaration, and the Qingdao Declaration (2015) were identified as global frameworks aimed at tackling challenges of marginalisation and digital learning uptake across all spheres. In Europe, policies were used to combat the marginalisation of Roma people. In Brazil, affirmative action initiatives were implemented to combat the same issue. Kenya, through a National Gender and Equality Commission, established an act of Parliament to address concerns of marginalisation throughout Africa, notably the Southern African Development Community (SADC) area.

In the case of Zimbabwe, there are measures in place to combat digital marginalisation. Zimbabwe's policy landscape on education and digital inclusion reflects a fragmented yet evolving attempt to integrate technology into learning. The Constitution of Zimbabwe (2013) establishes broad guarantees against marginalisation but does not explicitly address online learning, thereby leaving digital access outside its constitutional framework. The Education Act (2020, as amended) makes a notable step by inserting a clause that promotes the use of emerging technologies in education. However, this provision remains underdeveloped, as it does not articulate enforceable standards on affordability, accessibility, infrastructure, or teacher training, which are critical determinants of equitable digital inclusion. Similarly, the Zimbabwe Early Learning Policy (2023) acknowledges the role of low-tech digital tools such as radio and flash drives in emergent learning. While pragmatic in resource-constrained contexts, this policy lacks a comprehensive strategy for digital infrastructure development or systematic teacher capacity-building, thereby limiting its transformative potential.

2.3.1 The synthesis of literature on current policy context and access to online learning

The global policy landscape demonstrates a strong normative commitment to addressing educational marginalisation, with frameworks such as the Dakar Education for All Declaration (2000), SDG 4 (2015), the Incheon Declaration (2015), and the Qingdao Declaration (2015) all emphasising universal access, equity, and the use of

ICT to expand learning opportunities. These declarations establish a moral imperative that no educational goal can be considered achieved unless it is achieved for all (Ruto, Gachoya and Ngindiru, 2022). However, despite these commitments, inequalities persist, particularly in rural and marginalised communities where access to digital infrastructure remains limited.

Comparative experiences from Europe, Brazil, India, and Australia illustrate how affirmative policies can be mobilised to address exclusion. For example, the EU's Roma integration strategies, Brazil's affirmative action quotas for Afro-Brazilians, and India's caste-based inclusion policies demonstrate that targeted interventions can redress systemic inequities. These cases highlight the effectiveness of context-specific, affirmative measures in tackling entrenched marginalisation. Yet, they also reveal shortcomings: while policies exist, their implementation often falls short of dismantling structural barriers, particularly in digital education.

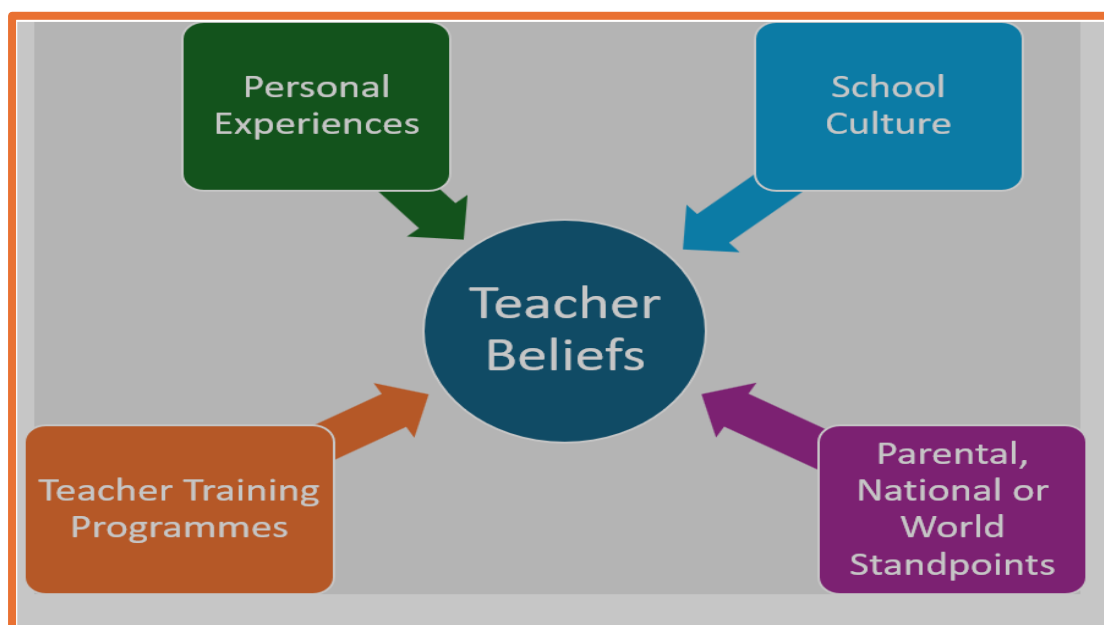
In Sub-Saharan Africa, Kenya's constitutional and institutional reforms (2010; National Gender and Equality Commission, 2014) provide a regional benchmark for embedding equity into governance structures. Zimbabwe's own constitutional provisions (2013, revised 2018) similarly commit to protecting marginalised groups. However, the critical shortcoming lies in the translation of these commitments into ICT-specific policies for ECD. While Zimbabwe has frameworks to address general marginalisation, they remain insufficiently aligned with the realities of online learning access for young children in rural communities. The current policies in Zimbabwe collectively demonstrate awareness of the importance of digital transformation but fall short in operationalising equitable access. Their shortcomings lie in the absence of enforceable standards, fragmented approaches that privilege low-tech solutions, and weak implementation mechanisms that fail to address affordability, infrastructure, and teacher preparedness. Thus, while Zimbabwe's policy frameworks acknowledge ICTs as essential to development, they remain inadequate in addressing the structural inequities that hinder digital justice, leaving early childhood education vulnerable to persistent exclusion in the digital era

2.4 The nexus of teacher beliefs and online learning practices

This part of the study addresses the significance of beliefs held by teacher in determining the success of accessing online learning among young learners in marginalised ECD settings. Several aspects that inform the beliefs including teacher training, school environments, personal experiences and world or national standpoints are critically examined. It also discusses the contribution of teacher development programmes and processes to teacher self-efficacy and the willingness to incorporate online learning modalities into their teaching practices. The review also addresses the rationale for examining teacher beliefs. The section concludes by interrogating teachers' ECD online learning beliefs. This section lays the groundwork for examining how teacher beliefs can be developed or shaped to support inclusive online learning practices.

2.4.1 Factors influencing teacher beliefs

The factors influencing teacher beliefs are graphically represented by the diagram below



Source: Compiled by the author

Figure 2.2 Factors influencing teacher beliefs

Teacher beliefs are fundamental perceptions that influence how they interact with learners. These opinions can vary greatly among teachers and are influenced by a range of factors. Teachers' professional education and training play an important impact in shaping teacher beliefs (Tatto, 2019). According to Hassanein, Alshaboul, and Alshaboul (2021), preservice teacher beliefs are formed in preservice teacher-preparation programs. According to Gilakjani and Sabouri, (2017) teachers' attitudes are highly influenced by their own experiences, as both students and as persons across various social and cultural situations. Teachers' beliefs may evolve and change over time as they gain more experience and encounter new educational theories and practices (Ritter, Wehner, Lohaus and Kramer, 2019).

It emerges from the literature scanned that the coursework modules, teaching practice experiences, and interactions with peers and lecturers that students do at colleges and universities can all affect and modify the convictions and perspectives that teachers carry with them into their training programs. Their attitudes about teaching and learning in an online learning environment might be shaped by the type of training they get, particularly pedagogical approaches and philosophies. Positive or negative school experiences can impact their views about teaching and learning using online learning tools. Teacher training programmes can incorporate opportunities for teachers to reflect on their beliefs and align them with evidence-based practices (Ritter et al., 2019). This implies that the preparations teachers get during the teacher training period concerning teaching using online learning tools influence their beliefs on whether they can be effective in an online learning environment or not. During the teacher training period, teachers' self-efficacy beliefs, which refer to their confidence in their ability to perform specific teaching tasks which influence their instructional practices should be strengthened (Viswanathan, 2019). Thus, institutions of higher education need to give prospective teachers the opportunity to fully understand online learning so that they graduate with positive self-efficacy beliefs.

An additional driver of teacher beliefs is the school environment. According to Tas, Eminoglu, Atila, Yildiz, and Bozkurt (2021) teachers' self-efficacy about online education is influenced by their education, prior to use of technology, the sort of school they work in, and their active participation before the COVID-19 pandemic breakout. Interaction with co-workers, and mentors can have an important effect on a teacher's beliefs. Pre-service teachers' beliefs about instruction are shaped by their educational

practicum experiences, according to Liu, Cao and Yichang, 2022). Teachers may gain insight from others, share strategies, and question current views through collaborative talks, mentorship connections, and peer observations. Based on literature from Liu, Cao and Yichang, (2022) mentioned above, there is need to review what student teachers are assessed on during their teaching practice period to include teaching using online learning tools.

Beliefs emerge from culture, according to Shah, Shah, and Shah (2023). According to Wulandari (2019), teachers' cultural backgrounds influence their teaching beliefs. Teacher attitudes can be influenced by broader socioeconomic and cultural issues such as expectations from society, policies regarding education, and cultural norms. In their study of educator practices and beliefs in emergencies, teachers' classroom practices, as discovered by Manzunzu and Maera in 2022, are generally governed by opinions and cultural preferences. According to Pajares (1992), beliefs are formed by a process of enculturation and societal construction. Furthermore, Mertala (2019) contends that macro- and micro-contextual elements, such as the country's educational policies and personal experiences, impact teachers' beliefs. If beliefs are shaped by one's culture, understanding the experiences of the marginalised communities and how their way of life promotes or hinders access to online learning is crucial.

2.4.2 The rationale of understanding teacher beliefs

Teachers are important actors in facilitating access to online learning. According to Rasmitadita, Aliyyah, Rachmadtullah, Samsudin, Syaodih, Nurtanto, and Tambunan (2020), online learning was endorsed as a viable and appropriate means of ensuring students' educational continuation during emergency situations. To have a successful implementation of online learning in crisis times, teacher beliefs and practices play a critical role. Teachers' beliefs toward online learning are critical for adopting online learning systems for early children (Jiale, 2021). According to Blackwell, Lauricella, Wartella, Robb, and Schomburg (2013), positive impressions of children's learning through technology highly predict actual use of technology. Teachers who have positive attitudes about online learning are more likely to use online learning platforms in early childhood settings, whereas teachers who hold negative beliefs about online

learning may be less likely to use online learning platforms in early childhood settings. According to the literature, teacher beliefs are congruent with their approaches to teaching.

Understanding teachers' beliefs is essential for teacher education and professional development. The knowledge on teacher beliefs can contribute to the development of evidence-based instructional practices. Darling-Hammond, Hyler and Gardner (2017) report examines effective teacher professional development practices. It highlights the significance of understanding teacher beliefs and using them as a starting point to design evidence-based professional development programs that support teachers in implementing effective instructional practices. Using highlights from Darling-Hammond above, it is importance to understanding teacher beliefs and use research-based knowledge to inform instructional practices and improve teacher education programs. By examining teachers' beliefs, researchers and policy makers can gain insights into the factors that shape instructional practices and identify areas for improvement (Ritter... et al., 2019; Zou, 2022). Considering the above ideas, understanding the motivations behind teachers' use of online learning assists in comprehending their demands and improve the system (Mhlanga and Moloi, 2020). The improved systems promote teachers' classroom practices. A study by Sabarwal, Abu-Jawdeh and Kapoor (2022) revealed that an understanding of teacher beliefs is the road to promote teacher effectiveness. This study sought try to understand teacher beliefs so that suggestions for teacher training institutions are made to shape beliefs for prospective teachers, so they graduate with positive self -efficacy beliefs which are needed to promote digital learning among young learners.

Prior studies done in the field of mathematics and language learning revealed that beliefs are the cause of action in the class. A study by Yang, Kaiser, Konig and Blomeke (2020) examines pre-service mathematics teachers in China and their knowledge, beliefs, and instructional practices. The study reveals that teachers' beliefs about the nature of mathematics and constructivist beliefs about teaching and learning mediate the relationship between their knowledge and instructional practices. Another study by Campbell (2020) investigates the relationship between teachers' reported play-literacy beliefs, phonics practices, and their decisions regarding commercial phonics programs. It highlights the importance of understanding teacher beliefs in shaping literacy instruction. The literature scanned above focused on teacher beliefs

in mathematics and language learning. There is need to interrogate teachers' beliefs about digital learning in the context of early childhood learning. Additionally, a study conducted by Zou (2021) on the link between early childhood teachers' developmentally appropriate beliefs and practices discovered a modest positive correlation between teachers' self-reported beliefs and practices.

While several research studies agree that there is a positive relationship between teacher perceptions and classroom practices, Waluyo and Apridayani (2021) discovered discrepancies between teachers' perceptions regarding the integration of videos in English language education and their real classroom practices. This demonstrates that, while teachers hold certain beliefs, there are some conditions that prevent them from behaving in accordance with their beliefs.

Teacher beliefs are the fulcrum for online learning adoption. A study by Mertala (2019) explores teachers' beliefs about technology integration in early childhood education. It emphasizes the need to understand teacher beliefs to effectively integrate technology in the classroom. According to Aditya, Andrisyah, Ismiatun, Atika and Permadi (2022) teachers make use of their beliefs to effectively navigate digital transformations in the classroom. Teachers' attitudes toward technology influence their commitment to using digital tools and can lead to more reflection on their own teaching practices and the engagement of students (Mei, Aas and Medgard, 2019). Teachers' beliefs about the purpose and value of technology in education significantly influence their willingness to adopt and effectively use digital tools (Thurm and Barzel, 2022).

The literature has made it clear that teacher beliefs influence their instructional practices. This is critical for my study to solicit what school heads and early childhood teachers believe about using online learning as a platform for teaching and learning. This has important implications for my study. The success of online learning lies on the beliefs that teachers hold about its benefits. The study would suggest ways of improving teacher beliefs in an online learning environment to increase their classroom practices.

The evaluation of literature on teachers' perception revealed that teacher perceptions on how technology is used in education are well researched. However, little research has been done on teacher attitudes about online learning, in which internet-enabled tools are used outside of a traditional classroom setting. So far, only a few studies

have been conducted to gather information on teachers' attitudes about online learning for young children in marginalized rural communities. This is the knowledge gap that this research aims to fill.

2.4.3 Teacher beliefs about online learning in early childhood

Although online learning proved to be the fulcrum of educational continuity during the COVID-19 period, it is surrounded by both positive and negative feelings regarding its use in early childhood. There is a global debate regarding use of technology in early childhood settings. This was supported by Blackwell, Lauricella, Wartella, Robb, and Schomburg (2013), who found that some teachers' beliefs may have been influenced by the historical dispute about the growth of young children and technology. The debate could make teachers see the use of ICT tools as inappropriate for young learners. In their investigation into ICT use in young children, Saxena and Hew (2016) discovered that some teachers believe that using ICT is not appropriate and suitable due to the possible health or social hazards, such as eye strain, bad seating postures, and a lack of ability to communicate with peers. In addition, teachers may doubt the opportunities for holistic child development that online learning offers. These negative beliefs about ICT use with young children impact on teachers' classroom practices. According to Kamal and Illiyan (2021), a situation where teachers are unsatisfied with the ineffective use of online learning can disrupt the educational system. This literature is relevant to my study, as it offered me insights concerning the reasons for the strained adoption of online learning in early childhood settings.

Parents may also hold negative beliefs about online learning in early childhood education. For instance, online learning in ECD is still questioned as to whether it is appropriate for young children. This was reflected in a study conducted in China by Dong, Cao, and Li (2020), where parents and caregivers appear to be opposed to online learning due to its constraints, including younger children's insufficient self-control, parents' busy schedules, and technical support for online education. Our behaviours are founded on our beliefs. As a result, it is critical to investigate teachers' online learning beliefs in early child development settings.

Not all teachers in early childhood across the globe share the beliefs that online learning is not appropriate for young learners. Reaves (2019) claims that teachers' beliefs in online learning reflect a growing consensus that it is the preferred approach in modern education. To that aim, all the children ought to have the chance to learn more about the world surrounding them using online learning tools. Alberola-Mulet, Iglesias-Martinez, and Lozono-Cabezas (2021) conducted a study in which ECD teachers from a Spanish school participated to establish the value that teachers place on digital tools in their teaching. The findings reflected that teachers favour the usage of digital materials in the classroom, although no consensus on the appropriate amount of integration was established. Such a finding speaks volumes to my study; it gave me hope that even in marginalised communities, with support, online learning can be successful.

2.4.4 The synthesis of literature on the nexus of teacher beliefs and online learning practices

Reviewed literature broadly converges on the premise that teacher education and training exert a significant influence on the formation of teacher beliefs (Tatto, 2019, Hassanein ... et al., 2021 and Ritter ... et al., 2019). These studies collectively surface the dynamic nature of teacher beliefs, emphasising that such beliefs are not static but are continuously shaped by lived experiences and formal education. Based on this background, effective teacher professional development must design programmes that are belief sensitive to allow for positive belief formation (Darling-Hammond et al (2017). Another consensus in literature is on the need to incorporate digital learning modalities and practicum-based experiences within teachers' training programmes to build positive beliefs of online learning in ECD settings. The literature presents a shared scholarly recognition that school level contexts such as resources, mentoring and school culture serve either as enablers or constraints to belief change (Tas ... et al., 2021, Liu, Cao and Yichang, (2022). This scholarly position highlights that teacher beliefs are culturally situated and socially constructed within educational landscape. Interactions within the school significantly shape how teachers perceive their roles in online learning pedagogy. Furthermore, literature consistently converges on the understanding that policies play a significant role in framing what teachers' value and put to practice (Pajares, 1992, Shah, 2021, Wulandari, 2019, Mertala, 2019). Thus, policies that compel schools to integrate digital learning in ECD curriculum are likely

to yield positive teacher beliefs, unlike in situations where no policies exist to guide online learning. One other consensus in literature pertains to ECD teachers' reservations about online learning, particularly regarding its developmental appropriateness. The literature converges on the premise that teachers' online learning skepticism is rooted in perceived risks to holistic child development. There is a strong consensus among scholars that teacher beliefs catalyses the adoption of online learning in marginalised ECD settings. This is evident from Rasmitadita et al (2020) and Jiale (2021)'s argument that during crisis times such as the COVID-19 pandemic, teacher beliefs were instrumental in guaranteeing learning continuity. Blackwell ... et al., (2013) offered a similar lens by demonstrating that positive online learning beliefs predict actual online instruction use in the classrooms. Studies agree that teachers' positive beliefs can be easily translated to increased online learning tools usage in ECD settings. This alignment positions teacher beliefs as central to online learning transformations in ECD education. In contrary, Waluyo and Apridayani (2021) argue that teachers may fail to turn their positive online learning beliefs into actual classroom practices due to contextual constraints such as institutional resistance, teachers limited digital skills or lack of digital infrastructure.

While there were strong agreements within literature, disagreements were also noted. Some scholars situate the development of online teacher beliefs within teacher training programmes while others provide institutional factors such as school type and prior exposure to digital learning modalities as influencing belief development. The divergency may reflect differences in study populations, whether pre-service or in-service teachers.

Gaps emerged from the reviewed literature that the current study could close or recommend for future study. While factors that influence teacher beliefs formation were articulated, few studies provide a comparative analysis of how professional stage either being at pre-service and in-service level shape belief development. In addition, there are limited studies that explored belief formation in contexts where online learning is not fully supported as in marginalised ECD contexts. Although literature acknowledge school level factors that shape belief formation, very few studies interrogate how these factors actually mediate belief development. While most studies advocate for belief informed training, few offered ways of integrating beliefs into

professional development programmes. There is insufficient research exploring how teacher beliefs about technology are shaped within teacher training programmes, particularly in the context of early childhood education. This gap in literature is important since it revealed an area that needs further exploration. By addressing this gap, the study underscored the interplay between teachers' beliefs and training thereby contributing to the body of knowledge needed to inform policy and practice. Furthermore, literature is rich in studies that focus on subject specific beliefs; however, there is need for studies that seek to understand beliefs about online learning in marginalised ECD settings. Lastly, a gap exists in understanding how beliefs change over time particularly, in response to digital shifts and exposure to online tools. Very few studies examined the belief -practice congruence in marginalised ECD settings. The insights from literature underscore the imperative to remove structural barriers that prevent the translation of beliefs into practice.

2.5 Challenges in online learning access for marginalised early childhood Settings

Literature scanned at the beginning of the chapter revealed the historical policy context and how such colonial policies and practices aided in marginalising certain communities and groups of people. The discussed colonial policies and practices were and are part of the challenges in accessing online learning for learners in marginalised communities.

Beyond the colonial policies and practices, the integration of online learning in marginalised early childhood settings is fraught with numerous impediments. One of such challenges was to educate young children using online learning platforms during the COVID-19 pandemic crisis (Plotka and Guirguis, 2023). This crisis presented the challenge for both families and teachers around the world on how best to implement online learning for young children (Szente, 2020). According to Kuhfeld and Trasawa, (2020), the damage that COVID-19 caused regarding learning loses to children of all ages, the impact was significantly felt by young learners who learn best through face to face modalities. From the perspectives of Rajpopat (2024) COVID -19 has exposed deep digital inequalities in the form of lack of digital infrastructure and the varying levels of online competencies among learners and practitioners.

According to Mukute, Francis, Burt, and de-Souza (2020), one prominent issue is the scarcity of essential digital resources which pose a major challenge to access to digital learning tools. Most teacher training institutions have limited digital resources and this has any impact on the manner in which teachers are prepared for working in the digital environments (Mathebula, Moila, Maile and Mnisi, 2025). Apart from teacher training institutions, families suffer the same predicament of experiencing limited resources for digital learning. A study by Ford, Kwon, and Tsotsoros (2021) noted that inadequate access to technology continues to hinder low-income facilities from participating fully in internet-based learning activities. Furthermore, Mustafa (2020) observes that without adequate technological resources, it is difficult to effectively use digital tools especially for learners from underserved communities. The poorest children are least likely to have the tools or support to access online education (Flynn, 2020) while children from more privileged backgrounds on the other hand, received schooling that flowed smoothly and without interruption through online learning modes (Ebrahim, Martin, and Excell, 2021). This suggests that for young children in impoverished situations, online learning can remain a pipe dream if intervention is not timeously provided.

The absence of resources such as cell phones and laptops for schools and families contributes to limited adoption of online learning in marginalised early childhood settings located in different parts of the world (Rasmitadita ...etal., 2020). According to the Humes, (2020) this lack of resources has made learners from low-income families not to participate in online education throughout the COVID-19 epidemic lockdowns. The call for resource availability in marginalised communities in anticipation of future pandemics or disasters is therefore crucial.

Apart from electronic devices, Kamal and Illiyan (2021) found in a study done in Delhi that network challenges and data pack issues limit the utilisation of online sites in ECD settings. According to Faturoti (2022) internet usage has increased in Africa during the last ten years. Despite this, online learning resources, as well as data and bandwidth, remain scarce, particularly in rural areas. Kormos and Wisdom (2021) believe that remote schools face serious infrastructural problems, such as restricted or non-existent access to broadband or, in certain cases, no connection to the internet at all. While several studies identified internet connectivity as a barrier to access to digital learning, a few explored affordability in using the internet. Subscriptions for internet

are a hurdle for schools serving learners from marginalised communities. Sustainable sources of internet subscriptions for schools in underserved communities need to be in place. This suggests the need for the government to be the sole provider of internet bundles to schools.

The human resource component is crucial in access to online learning metrics for marginalised early childhood settings. Access to online learning initiatives becomes a pipe dream for learners in marginalised early childhood settings if the human actors have limited digital competencies. Taimur, Sattar, and Dowd (2021), conducted a study revealing that the absence of digital competencies among early childhood teachers was a barrier in successful implementation of online learning. Similarly, Mathebula, Moila, Maile, and Mnisi (2025) identified insufficient teacher training and preparation as critical obstacles in organising online classes in early childhood settings. Teachers' limited knowledge of online learning processes, represents a significant drawback to successful online learning initiatives. Teachers have a proclivity for adapting to new technology that they are confident in implementing. As highlighted by Cidral, Oliveira, Di Felice, and Aparicio (2018), the readiness of teachers to teach in an online learning environment plays a crucial role in determining the success of the digital learning programmes. Although COVID-19 underscores the role of digital learning during crisis, tertiary institutions are slow to fully ensure that the graduates they are producing are proficient in working in an online learning environment (Kim, 2020). There is therefore a great call to address this disparity, so that teacher training institutions produce teachers who would move the digital learning agenda forward.

Online learning in early childhood involves a set of skills that both teachers and learners need. For instance, a study by Ford, Kwon, and Tsotsoros (2021) in the United States during the COVID pandemic highlighted that the effective utilisation of online learning has faced a number of difficulties related to limited teachers' digital skills such as limited child engagement rates, limited social interaction, and lack of developmentally suitable means of actively interacting in an online learning space. Similarly, a survey of ECD teachers' perceptions on problems and variables impacting early learning in Hong Kong found that student involvement issues continue to be a barrier to online learning uptake (Saxena, 2021). Redecker's (2018) European Framework for digital competence of teachers, emphasised the need for establishing

digital skill gaps for teachers. These gaps in skills need to be addressed during teacher training programmes. The training programme should assist teachers in developing skills on learner engagement and interaction so that they are made ready to apply these skills during online learning sessions.

Not only teachers' digital competencies matter in online learning metrics for young children but also of learners and of parents. From Jalongo (2021)'s perspective, it is very challenging to engage learners in online learning due to the fact that most of the children are yet to understand how to write, read, or even use computers. Moving instruction online, according to Timmons, Cooper, Bozek, and Braund (2021), means that young learners will need a lot of help accessing learning resources because the majority won't have the knowledge or abilities to use computers and other technology to do activities on their own. This necessitates a rethinking of parents' involvement in their children's education, as they are now expected to support their children access learning materials given remotely by teachers in the new normal. This underscores the need to develop digital skills among the parents so that they assist their children navigate online learning tools.

Teachers who took part in the study by Taimur, Sattar, and Dowd (2021) on perceptions of challenges and successes associated with online classroom instruction believed that parents lacked basic understanding and skills for adjusting to the entire online learning scheme, causing them to be uncooperative and frustrated. According to Brown, Te Riele, Shelley, and Woodroffe (2020), learning losses occur when children are learning at homes because parents and caregivers could not support their children's learning due to a lack of time. They go on to say that families are unable to provide at home learning due to a lack of available resources, including equipment, space, and technology. Parental non-engagement in online learning is a disaster for the education and development of the children, as their participation is crucial for online learning's success. As a result, efforts must be made to provide parents with all of the essential materials and information to assist their children in virtual worlds.

Beliefs about the appropriateness of online learning in early childhood settings impact the implementation of online learning. This was confirmed in a study by Dong, Cao and Li (2020) where parents in China were less positive concerning the benefits of online learning in early childhood settings. Similarly, Steed, Leech, Phan, and Benzel

(2022)'s study on perceptions of online learning in early childhood established that it is not a good fit for young learners. Additionally, a study by Basargekar and Singhavi (2017) further highlights that lack of teachers' beliefs, confidence, and commitment in ICT usage impacts on the adoption of online learning. Literature has shown that teachers and parents may hold negative beliefs about online learning for various reasons one of them being health concerns. Carstens, Mallon, Bataineh and Al-Bataineh (2021) on their study on effects of technology on student learning found that while technology has been found to improve learning in certain situations; in others it was found to have potential detrimental influence.

There are some critical perspectives in literature that question online learning for young children. These include developmental appropriateness, screen time and cultural epistemologies. Concerns about online learning risks for early childhood learners are increasing, with video addictions, social exclusion, and physical health issues drawing significant attention (Nouwen and Zaman, 2018). These social and psychological risks raise concern about how online learning may hinder the holistic development of young learners. A study by Priftis and Panagiotakos (2023) highlighted that excessive screen time contributes to a range of health challenges including metabolic disorders, obesity, chronic neck, back aches and sleep disorder. This highlights the seriousness of the issue as Ponti (2023) also supports the relationship between excessive screen usage and childhood obesity. With regard to sleep disturbances, Kahn, Schnabel, Gradisar, Rozen, Slone, Atzaba-Poria, Tikotzky, Sadeh (2023) presented evidence that the quality of sleep in young children is negatively affected by excessive exposure to digital screens. The scanned literature highlighted the need to introduce digital learning carefully with young learners so as to manage screen time. There is a gap involving teachers' use of developmentally appropriate online learning platforms in early childhood. It is therefore critical to evaluate whether digital learning activities are developmentally appropriate for the young learners. These perspectives that questions online learning for young children enriched the problematisation of online learning as both opportunity and risk.

2.5.1 The synthesis of the literature on challenges in online learning access for marginalised early childhood settings

Synthesis of literature reveals that COVID-19 made the shift to online learning inevitable, yet, the integration of online learning in marginalised ECD settings remains fraught with structural and pedagogical impediments. COVID -19 disrupted the face to face learning that was a global standard for decades and made the rise to online learning inevitable. Plotka and Guirguis (2023) emphasise that the crisis posed unprecedented difficulties for both families and teachers worldwide, who struggled to adapt early childhood pedagogy to digital modalities. Similarly, Szente (2020) underscores the global uncertainty surrounding how best to implement online learning for young learners, given their developmental reliance on interactive, face to face engagement. The transition to online learning during the COVID-19 crisis exposed deep access barriers to online learning for those in the margins. Young children's ecological systems from micro level to macro levels were found to be unprepared for supporting online learning during the COVID-19 induced crisis. This aligns with Kuhfeld and Trasawa (2020)'s assertion that in crisis times there is learning losses across all age groups, noting that young children were disproportionately affected because their learning thrives on direct social interaction and play based experiences. It was through the lived experiences of the COVID -19 pandemic that the inspiration to carry out this study emerged. Without highlights from the COVID -19 pandemic, online learning especially for young learners in marginalised contexts wouldn't be in the picture for the coming decade.

Furthermore, the colonial policies and practices laid the foundation for digital exclusion in marginalised ECD settings (Mukute et al, 2020, Scottish Government learning directorate, 2020). These colonial legacies and systemic inequalities continue to manifest in early years online learning environments. However, the literature diverges in the interpretation of these legacies, with some focusing on policy neglect while others stress on infrastructural decay. Few studies explored the relationship between colonial histories to current online learning access for marginalised ECD settings, signifying a gap in context-specific research. The historical context of access is crucial for understanding the current digital access disparities. Based on this background, the online learning initiatives must go beyond the provision of digital

resources and tackle deeper systemic roots of inequalities. Future empirical studies should explore ways of dismantling historical policies and practices that were responsible for digital exclusion and develop inclusive online learning policies.

Another strong consensus in literature is that lack of digital resources and infrastructure impact online learning access for learners in marginalised communities (Ford ...et al., 2021, Rasmitadita ...et al., 2020, Kamal and Illiyan, 2021). These challenges are mostly felt in rural and low-income communities, where families and schools often lack access to basic online learning tools such as the internet, electricity and electronic devices. Although some scholars note rising internet usage in African nations (Faturoti, 2022), the use is not sustainable due to persistent affordability issues. There are limited studies on sustainable frameworks for the provision of the internet, particularly, in resource constrained environments. This challenge requires systemic investment in infrastructure and internet provision by the government. This could significantly promote access to online learning by ECD learners from disadvantaged communities.

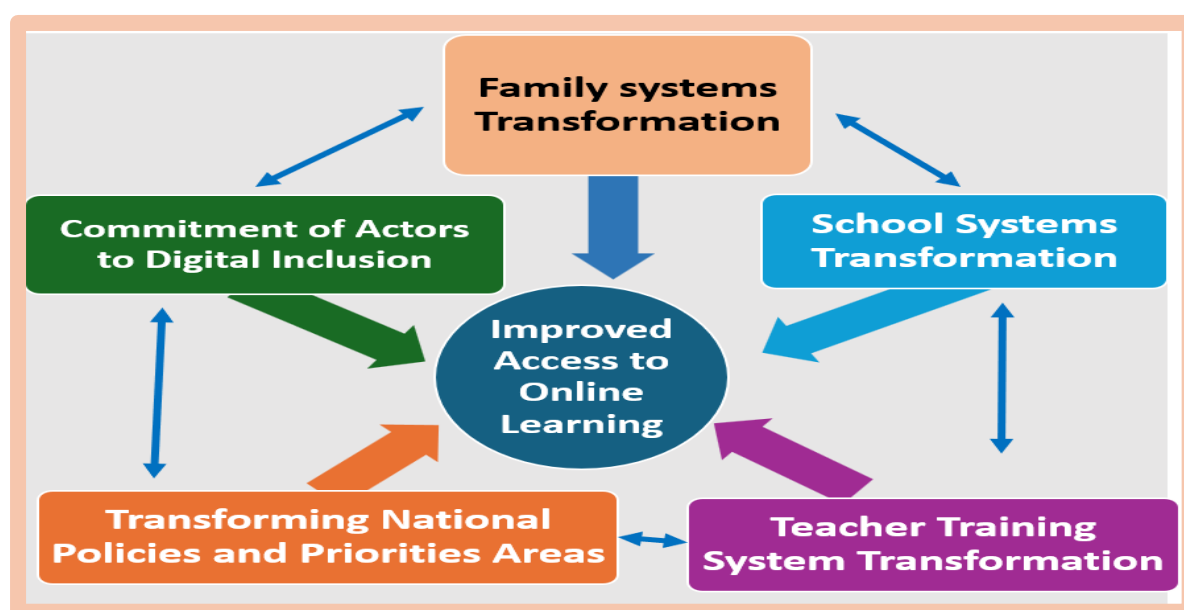
Many scholars reviewed for this study consistently identify limited online learning competencies by teachers as barriers to online learning access (Taimur ...et al., 2021, Railience ...et al., 2021 and Saxina, 2021). Teachers without digital skills could not move the online learning initiative forward. Studies vary on the source of this gap, with others highlighting shortcoming in teacher training programmes while others focus on the existence of a generation of teachers who did their professional training before the integration of ICT within teacher preparation. Studies are needed to explore the impact of training on the adoption rate of online learning in marginalised ECD contexts. The identified challenge calls for reform in teacher training ensuring that trainee teachers are exposed to robust online learning skills and engagement strategies.

Scholars strongly agree that limited digital readiness by learners and their caregivers hinders access to online learning modalities (Jalongo, 2021, Timmons ...et al., 2021, Brown ...et al., 2020). Learners and parents need skills to engage with online learning platforms. In cases where these skills are absent, learning through digital formats won't be a reality. Research studies that focus on exploring parental training models are needed to address parent's non-engagement due to unfamiliarity with digital tools.

This theme underscores the need to empower parents and learners with online learning skills so that they easily navigate the online learning environments.

2.6 Suggested strategies for promoting access to online learning for marginalised Early Childhood Settings

Scholars offered several strategies that shape access to online learning for marginalised ECD settings premised on systems thinking and ecological perspectives of change. Such paradigms advocate for the adoption of integrated, multi-level transformations to bring about durable gains for those facing educational exclusion. In this study, literature has identified five interrelated transformation levers for advancing the online learning initiative, actors in online learning provisions, the family system transformation, the school system transformation, teacher training system transformation and transforming the national policies and priority areas. By means of critical synthesis of literature, this section provides evidence of how each lever addresses structural barriers to ECD online learning access. The strategies proposed in literature are visually represented and further elaborated to specify the aspects they are expected to improve.



Source: Compiled by the author

Figure 2.3 Integration of the ecological systems and resilience theory

2.6.1 Commitment of actors to digital inclusion

Who are the actors and reasons for inaction?

Literature scanned reveal that multiple actors have a role in improving access to digital learning for learners in marginalised communities. School heads' proactive in adapting to technological changes was identified as critical (Mertens, Schaper and Kamin, 2024). School heads serve as agents for facilitating the adoption of technology in schools they lead. They ensure that their schools are not left out in developmental projects such as connectivity to internet and the power. Teacher training institutions play an essential role in equipping both pre-service and in-service teachers with digital skills. As actors, teacher training institutions need to redesign pre-service teacher education to tailor it to the demands of digital instruction and to expand online learning for in-service teachers (Papavlasopoulou, Undheim, Meaney and Esmaeeli, 2024).

The government and the policy developers were among the identified actors in pushing the online learning initiatives for marginalised early childhood settings forward. Díaz, Cobo-Gómez and Pardo (2025)'s study stipulates that lack of prioritisation by the government impact online learning adoption for learners from low income and rural areas. This is a clear testimony of the critical role the government plays in children's online learning. Without government input there won't be any digital learning to talk about. Network and power providers have a role to play in the provision of internet and electricity which are critical in online learning environments. Without the services of these institutions, efforts to improve access to online learning for learners in marginalised communities will remain a challenge (Bwire, Bagarukayo and Muyinda, 2020). Parents although often overlooked in the online learning landscape are a critical factor for pushing the online learning initiative forward. Parents play a crucial role of procuring digital devices for their children and assist their children navigate online learning environments. This aligns with Vygotsky (1978)'s theory which highlight the experiences children have in the hands of knowledgeable adults. Non-human actors were identified as critical in improving access to online learning for marginalised early childhood settings. According to Sodhi, (2020) both human and non-human actors influence child experiences. The same emerges from Awa, Ukoha, and Eke (2016) who posit that Actor Network Theory (ANT) recognises the diverse

roles played by various actors in the access and support for the utilisation of emerging technologies in marginalised early childhood settings. This reflects the application of Actor Network Theory in researching access to technology in marginalised communities.

Additionally, parents are significant actors in achieving digital access for all. From the lenses of Lewis, Howard, Verenikina and Kervin (2024), parents shape their children's digital experiences and they need to be empowered through training so that they acquire essential skills for navigating digital learning tools. This aligns with the research findings by Vanek and Goumas (2021) which highlights the significance of incorporating digital literacy into programmes tailored for families. Parents need such skills to ensure that they supervise their children's online learning activities and enhance their preparedness to technology use (Rodriguez and Liu, 2023). Apart from skills for online learning, parents as actors also need assistance in securing digital devices and internet for their children. This corroborates with what McCall, Duncan, Wadsworth, and Gallardo (2024) established in their resources which highlight that families need help to address challenges in securing and subscribing for high speed internet services. This suggestion highlights the economic barriers caregivers as actors face in securing digital resources.

2.6.2. Access to online learning through systems modification:

The family system

There are several ecological systems involved in improving access to online learning for marginalised early childhood settings Bronfenbrenner, (1994). According to Bronfenbrenner (1979)'s ecological theory, the family operates within other systems such as the school and the government. The interaction of the family and other systems is not adequately explored in literature. This study focuses on how other socio ecological entities interact with the family. The family occupies the closest layer to the child in the ecological system and it operates as interconnected systems as given by Bowen (1978). Bowen (1978) developed the family systems theory which helps in explaining the roles of family members in ensuring access to online learning for learners from underserved communities. A study by Baptist and Hamon (2022) highlight that in a family system, members influence each other and any changes in

the family dynamics affect the operations of the whole system. From the online learning lens, in cases where family members lack digital skills, children struggle to access learning content via digital learning tools. This aligns with the study findings by Shukia and Marobo (2024) who established that learners from families with limited competencies for engaging in online learning experience learning losses especially during crisis times. To address this, there is need to organise training programmes for families to equip them with digital literacy essential for effectively supporting their children to navigate online learning environments. In an effort to improve access to digital learning, every family member has a role in shaping young children's online learning experiences as offered by Lewis, Kervin, Verenikina, and Howard (2024) hence, access to online resources cannot be achieved in isolation of the family system. Although the contribution of Lewis ... et al. (2024) is significant, there is limited research on how families in marginalised early childhood settings mobilise resources to promote digital learning. Caregivers within the family system have a critical role for providing resources for online learning and their success in this role influence the child's engagement in online learning. In families where older siblings have digital skills, support to young children in navigating online platforms can be enhanced. The use of older siblings is a suggestion which needs further exploration to establish the extent and effectiveness of this role in an online learning environment. Although literature scanned underscores the importance of caregiver involvement in online learning programmes for young children, there are limited policies to support this initiative. Literature has said it all that there is a relationship between digitally strengthened families and access to online learning for learners in underserved communities. It is therefore critical for government to come up with initiatives tailored on empowering families to be powerful hubs for online learning.

2.6.3 Access to online learning through systems modification: The school system

Schools are critical digital learning ecosystems for enhancing the integration of online learning in early childhood education (Wang, Wang, Peng and Li, 2025). These institutions are levers that bring various resources together to move the online learning initiatives forward. They also set aside funds for improving the school digital infrastructure and purchase of digital devices. Schools also ensure the success of

online learning adoption at ECD Level by developing school-based policies and or advocating for national policies that promote online teaching and learning. From the perspectives of Owen, White, Palekahelu, Sumakul and Sedyono (2020), access to online learning can be improved through strategic planning. School leadership must communicate the significance of integrating online learning in the school activities by timetabling it in the master timetables. Putting resources together for online learning requires big investments which schools cannot bear alone, it is therefore important to work with community groups, private companies and the government to mobilise funds for online learning. This aligns with the call for partnerships in improving the school systems as offered by Bronfenbrenner (1979).

The school is one of the immediate systems operating at micro level and interacts with the child directly. An improvement of school's digital infrastructure leads to improved access to online learning for learners in underserved communities. According to Yopi (2024), the school needs early childhood teachers with both digital competencies and the ability to effectively integrate digital tools into practice. However, most teachers do not have digital literacy for using online learning tools. This has an impact on their capacity to prepare young children for online learning (Farisia and Syafii, 2024). School heads need to preside over human and non-human components of digital learning ensuring that teachers, parents and learners have the right digital literacy for online learning (Mertens, Schaper and Kamin, 2024).

To bridge this gap, in-service teachers need to undergo Continuous Professional Development (CPD) to acquire best practices for engaging young children with digital tools as supported by Hartle, Bales, Gardner, MacLeod, DeFluri and Ehinger (2021). Ohlin, (2019) also underscores the need to support teachers to pursue programmes that enhance their digital skills and teaching. The school can make use of rewards to encourage teachers to seek capacity development in online learning. This was supported by a study by Dula-Ercegovic (2025) who echoed that while financial support is important, non-financial motivational tools and rewards, such as promotions are more effective in persuading teachers to seek professional development trainings. School systems won't be ready for online learning in the face of limited digital resources (Navarro, 2022). Schools need to improve their readiness to online learning by including digital infrastructure development in their annual plans. If school funds

could not move this agenda, school leadership must invite other stakeholders to assist with resources mobilisations.

Literature scanned reveals that access to online learning for learners in marginalised early childhood settings can be improved if the school assumes its role as a digital learning ecosystem responsible for resource mobilisation. The proactive roles of teachers and school heads catalyses the integration of online learning in ECD curriculum. Thus, schools as systems for online learning promotion need to drive policy creation and mobilise resources for online learning. Online learning resource mobilisation involves huge amounts of money which is not available in most marginalised early childhood settings, hence, the need to seek external support from developmental partners such as private sector and the government. The school system therefore needs strong school managers who can achieve the access to online learning metrics through strategic planning and engagement with other stakeholders.

2.6.4 Access to online learning through systems modification: National System

During COVID-19 pandemic, almost all the governments in the world were showing a commitment to support online learning across all level of education as highlighted by (Singh, Adebayo, Saini and Singh, 2021). This government is essential in providing tailored solutions to the identified digital gaps. A study by Al-Sumaiti, Sumitkumar, and Nguyen (2024) revealed the usefulness of collaboration in improving access to amenities such as electricity. The study finding collaborates with that of Languille and Balsera (2025) who emphasise the need for private investment in online learning. If the suggestions of this study translate to action, access to online learning at ECD level will be guaranteed. This aligns with Kofo, Ochayi and Jimoh (2022)'s call for the government to provide funds for expanding bandwidth in areas where it is limited to enhance access to online learning.

In most marginalised communities digital divide remains a drawback to the adoption of online learning (Adam, 2022). This challenge has adverse effects on the education of young learners and learning losses in the event of world crisis that require shifting to online learning mode. The problem of digital divide is so much huge that it needs to be tackled at national level. There is need for national advocacy and for actors at

national level to be proactive in influencing policy creating and resource mobilisation. The government as the chief player in the journey to address digital divide, needs to lobby for the development of policies that truly address the digital divide concerns. This can be achieved through networks that the government creates with private sector and the non-governmental organisations. Thus, issues of access to online learning in marginalised early childhood settings requires a multi-sectorial approach where multiple actors put hands together to provide solutions to gaps to access. The partnerships can be extended to international organisations such as UNICEF so that the financial burden associated with fighting digital divide can be shared across a wide spectrum of actors. Although some people argue that problems confronting us need to be addressed from within, the socio-economic and cultural factors may hinder some from providing solutions to their problems hence, the needs for outside solutions.

This public-private partnership must ensure that online learning is integrated into national education initiatives. The inclusion of online learning for young learners in national policies communicates the government's commitment to allocate resources to bridge the digital access gap.

Key areas of policy focus should include expanding power and network connectivity in areas where these services are limited. The government must also consider subsidising devices for online learning for learners in marginalised communities and to empower local tech companies to produce and distribute affordable electronic

devices to increase learners' access levels to online learning. The state has a big obligation to produce teachers with digital skills. The reskilling exercise for in-service teachers must be catered for in the national budgets. Furthermore, the research by (Ali, and Faroque, 2023) highlights the significance of government funding in the fight to address digital divide concerns. The nations must establish policies for funding schemes where grants and subsidies are made available for parents, teachers and schools ensuring they get the right resources for online learning.

The success of all the recommendations raised in literature hinges on the establishment of monitoring plans. At every level, any progress made towards achieving universal access to online learning or digital inclusion for learners in

marginalised early childhood settings must be communicated and challenges faced is shared. This assists in keeping every effort on check.

2.6.5 Access to online learning through systems modification:

Teacher training systems

The sub headings discuss expected modifications within teacher training systems to improve access to online learning

2.6.5.1 Reskilling of lecturers

Teachers' digital competencies constitute a major component of access to online learning. Teacher training institutions play a critical role in ensuring that ECD teachers are equipped with the right digital skills before the graduate. However, some lecturers at these setting do not have the skills to prepare prospective teachers for working using online learning tools. Addressing lecturers' digital competency gaps is critical for making teacher training institutions better online learning systems. A study by Muchemwa (2021) on university lecturers' preparedness for online teaching and learning during COVID-19 period revealed lack of preparedness by lecturers to use online learning platforms for teaching and learning. This has adverse impact on the students who are expected to continue learning in times of crisis, yet the lecturers cannot use the digital platforms for the purposes of teaching and learning. Ntshwarang, Malinga and Losike-Sedimi (2021)'s study underscores the need for training lecturers to equip them with the skills to use eLearning tools effectively. Lecturers need to possess high digital competencies in aspects to do with online content production, learner engagement, and navigating digital tools so that they produce graduates with matching skills (Hanini, Sulaiman, Mohamed, Lip, Zdainal, Norshilawani, binti Shahidan, Mohamad, Haji, Ishak, and Sabilan, 2020). Although it is likely to receive critics from some people who feel that resources could be better spent directly on students rather than on up - skilling of lecturers, institutions of higher learning need to incorporate digital literacy as a core component of professional development plans for lecturers. The digital skills of lecturers are important not only for producing digitally literate pre-service teachers but also for re-skilling in-service teachers who do not have digital skills.

2.6.5.2 Reskilling of in-service teachers

Most in-service teachers especially those in marginalised communities have limited digital skills. Institutions of high learning have a mandate to organise training workshops for schools to share tips on how to navigate digital learning tools. Hanemann (2021) posits that online teaching and learning skills for in-service teachers play a critical role in shaping their classroom practices. This is consistent with Costa, Castano-Munoz and Kampylis (2021)'s study which highlights the need for improving the teachers' digital competences to achieve a digital transformation in schools. Similarly, Reisoglu (2021) established that early childhood teachers who participate in programmes aimed at improving their digital literacy gained capabilities in fostering active learning and assessing children's work during online learning.

2.6.5.3 Transformation of technology curriculum at institutions of higher learning

Most in-service teachers in schools were born and trained before the use of emerging technologies. Colleges and Universities of that time had not incorporated technology into the curriculum. Now that we are living in the digital world, colleges and universities ought to change the curriculum students are currently experiencing to make them align with global trends and demands. This observation aligns with findings from various literature sources. For instance, a study by Nkansah, and Oldac, (2024) argues that university lecturers should collaboratively redesign digital literacy approaches to benefit undergraduate students at all levels. Similarly, Dabbagh (2023)'s study indicates the need for a learning design framework that can be used to reinvent online and e-learning programs in higher education contexts locally and globally, by moving away from models that ask learners to memorize information and take recall tests, to a model in which technology enables the design of learning experiences that feel relevant, meaningful, and useful to learners. Hojeij, Baroudi and Meda (2023) recommended that trainee teachers' institutions need to reconsider their curricula to make sure that they include technological literacy, allowing students to graduate with significant knowledge about online and blended teaching. The new curricular should include exposing prospective student teachers to a hybrid mode of learning as well as

of doing practicums. This finding coincides with the findings of the research by Mumford and Dikilitaş (2020) that underscored the importance of involving pre-service teachers in hybrid settings to expose them to both face to face educational environments and online learning environments. Similarly, transforming the teaching practice and tailor it to the digital needs of trainee teachers was identified as significant. Tepe (2021) recommends the application of hybrid system in school attachment programmes. Practicums offer students hands-on experience in their respective disciplines, allowing them to put their knowledge to use in real-life scenarios. According to Saxena (2021), if instructors acquire sufficient preparation at teacher training institutes, the adoption rate of online learning in ECD can be increased. Expanded teacher training could also teach them using technology securely, responsibly, and in a manner that promotes positive relationships and student involvement (Magen-Nagar and Firstater, 2019). As a result, both pre-service and in-service educators must participate in training programs aimed at improving their online teaching abilities.

2.6.5.4 Addressing infrastructure gaps at colleges and universities

Although most institutions of higher learning which produces teachers have introduced computer modules as compulsory for every student, lack of infrastructure in these places impact on the digital skill development for students. This is evident from World Bank (2020)'s offering that infrastructure and connectivity to the internet are critical for transitioning to eLearning. Similarly, Huang, Liu, Tlili, Yang, Wang, Jemni and Burgos (2020) highlighted the need to increase the server bandwidth of universities and schools to provide flexible learning and teaching experience for millions of students simultaneously without interruption. A study by Ntshwarang, Malinga, and Losike-Sedimi (2021) further confirms this need by asserting that the university management should further ensure that there is up-to-date infrastructure for easy implementation of eLearning. The literature evidence is testimony enough that internet facilities and unavailability of electronic devices at most tertiary institutions account for the digital gaps that teachers may report to have.

2.6.5.5 Policy frameworks as catalyst for producing teachers with digital literacy

Teacher training institutions need to have policies that compel students to develop digital skills before graduating. By implementing policies that require trainee students to graduate with digital competencies, universities can ensure that graduates are well-prepared for the demands of the modern job market (Cook ...et al., 2023). Teachers' digital competencies are crucial, and policies should facilitate their enhancement (Basilotta-Gómez-Pablos ...et al., 2022). Since policies guide action, this study advocates for the enactment of national and university-based policies that work as a framework guiding the preparation of the modern teachers with digital competencies that the world especially the country side patiently waiting for.

2.6.6. The synthesis of the literature on Suggested strategies for promoting access to online learning for marginalised Early Childhood Settings

The literature demonstrates a strong consensus that equitable access to online learning requires a multi-actor systems level approach. Several stakeholders emerged from literature as key actors in the online learning access metrics. The family and its constituency, parents, siblings and other caregivers emerge as critical and yet underestimated actors in the online learning trajectories for young children. Parents as online learning actors are responsible for mobilising digital devices, supporting online learning engagements during online sessions and shaping young children's online learning experiences (Lewis ...et al., 2022; Vanek and Goumas, 2021). However, due to reasons beyond them they often fail to execute their emerging digital parenting roles. In addition, there was a common scholarship among authors that the school with all its human components, teachers and school heads are pivotal change agents for online learning transformation. A convergence of empirical evidence affirms that school heads facilitate online learning adoption through including its use in school strategic plans and support the upgrade of school digital infrastructure. There is strong agreement in literature regarding the centrality of teachers' role in online learning access of marginalised ECD learners. Teachers plan and engage learners using online learning modalities. Scholars consistently highlight that teachers are failing to

effectively engage young learners in online learning due to their limited digital exposure during teacher preparation period. For this reason, teacher training institutions featured in several scholarly articles as significant actors in the online learning initiatives. Although scholars converge on the role teacher training institutions play in producing digitally competent teachers, the capacity of such institutions to attain this role is greatly contested in literature. Several gaps emerge that necessitate the transformation of institutional infrastructure, practicums and capacity building for lecturers. Literature further converges on the identification of network and power providers as essential actors for providing basic prerequisites for online learning such as internet and electricity (Bwire ...et al., 2020).

Furthermore, the national system with the policymakers and other important decision makers emerged as essential actors for advancing online learning access for learners in marginalised ECD settings (Diaz, 2022). Studies converge on the premise that online learning transformative pathways are initiated and supported by the government and its partners and they are cascaded down for implementation. Scholars, however, diverge on the effectiveness of the top-bottom policy approaches. This suggests the need for bottom - up policies that captures the exact lived experiences of the marginalised populations. Scholars strongly concur that the top-bottom policies are responsible for failures nations face regarding access to digital resources particularly for marginalised communities.

From the reviewed literature, several gaps emerged. Scholars noted severe inaction among several actors, resulting in unfulfilled promises of online learning equity in marginalised ECD settings. Apart from the actor inaction, the reviewed literature failed to identify learners as critical actors in the online learning process. This suggests how learners' voice and agency are often underrepresented in research. This could lead to lack of intervention strategies that would make young learners ready for digital learning. Literature broadly acknowledges the existence of multiple actors in young children's ecological space, yet, there are limited empirical studies that explore how these actors interact particularly in marginalised ECD settings to promote digital equity. Moreover, literature consistently highlights the role of non-human actors such as online learning tools and infrastructure systems, but as evident in literature they are rarely incorporated in digital intervention studies. The reviewed literature underscores the relevance of Actor Network Theory in explaining the interconnectedness of human

actors and the technologies. It is therefore imperative for this study to explore ways of addressing these gaps.

2.7 Conclusion

The review section of the study examined the current literature related to the lived experiences of access to online learning for young learners in marginalised ECD settings, focusing on the historical context of the study, teacher beliefs about online learning, factors that hinder access to online learning in marginalised communities, and suggested strategies for promoting digital access. Literature was drawn from multiple sources and theories, exploring how colonial legacies, infrastructural, pedagogical and policy factors interact to shape online learning access in marginalised ECD contexts. Overall, reviewed studies consistently show that access to online learning is determined by the readiness and capacity of interconnected systems. The systems include decolonised ECD contexts, digital competencies for teachers, parents and learners, availability of digital resources at home and school and other support structures. However, there are disagreements regarding the effectiveness of policies in practice. Despite policy declarations which advocate for the integration of ICT in educational systems, its actual uptake particularly in marginalised ECD settings remains minimal. The other point of contradictions concerns possibility for Africans to reclaim their agency in technology advancement. Some scholars hold an optimistic stance, believing that the indigenous ingenuity that characterises the African societies may provide an avenue for reviving African traditional foundations. On the contrary, others adopt a more pessimistic stance, emphasising the unlikelihood of reviving the indigenous knowledge system due to the structural persistence of colonial disadvantage. While some scholars have hope in post-colonial policies and practices to address the colonial legacies, learner exclusion has been rampant in recent years.

A clear trend in recent research is the imperative to shift towards systems thinking, ensuring that access to online learning requires coordinated efforts across multiple layers of influence. Theoretical approaches such as Bronfenbrenner's ecological systems theory have been predominant, indicating growing interest in context sensitive frameworks for online learning inclusion.

Despite extensive research, there remains a lack of studies addressing the intersectionality of these systems, specifically, how the family, school, and policy makers co-construct access pathways in early childhood contexts. My study responds directly to these gaps by offering a conceptual framework that integrates systems-level insights into digital equity for ECD education.

In conclusion, the reviewed literature reveals a layered understanding of complex interplay of opportunities and challenges in advancing online learning access for ECD learners in marginalised settings. However, the absence of sustainable mechanisms to advance online learning in marginalised ECD contexts underscores the need for further empirical inquiry to inform the development of a context-sensitive framework for action. Chapter 3 provides the conceptual framework guiding the research process.

CHAPTER 3

Conceptual framework

3.1. Introduction

The previous chapter explored literature related to the study. This chapter presents the conceptual framework underpinning this study. The aim was to understand the lived experiences of access and support to online learning for learners in marginalised early childhood settings. This was important to achieve the primary goal of the study, namely, to understand lived experiences to inform a framework of action aimed at addressing systemic inequities in online learning access and support for learners in marginalised communities.

3.2. The choice of conceptual framework

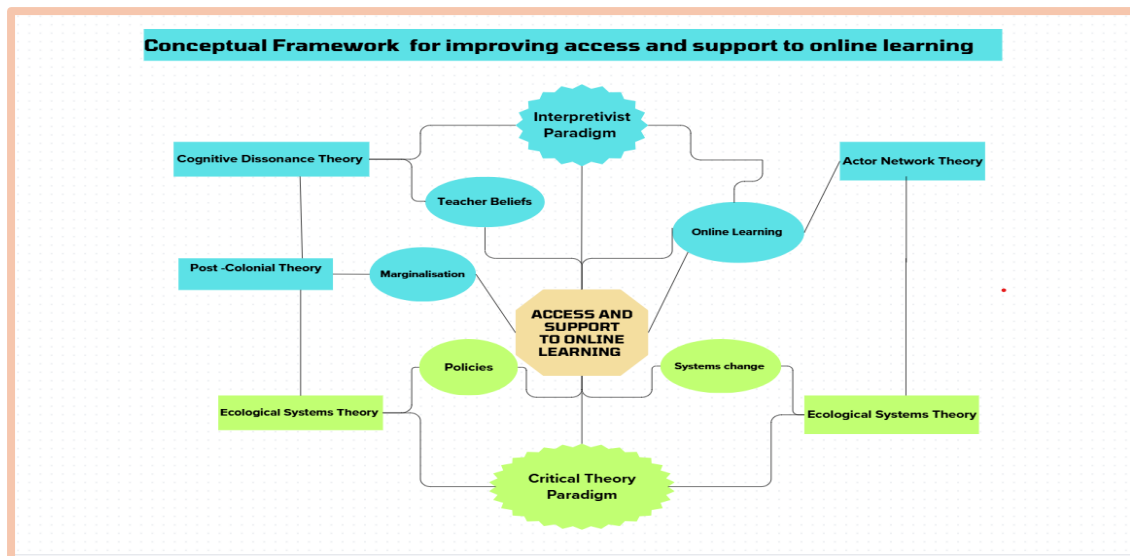
In research, scholars have the liberty to adopt either a theoretical or conceptual framework as the scaffolding for inquiry. A theoretical framework builds on established theories and effectively works as a research lens when one or two theories directly relate to the research problem (Ravitch and Riggan, 2017). In situations where, existing theories do not comprehensively address the research problem, using a conceptual framework would be ideal. This study adopted a conceptual framework as a methodologically sound tool for exploring the lived experiences of access and support to online learning for learners in marginalised ECD settings. Online learning in marginalised ECD contexts represents an emerging and multifaceted phenomenon that requires the flexibility offered by a conceptual framework to integrate diverse perspectives that a single theoretical lens may fail to capture (Mokhele-Ramulumo and Gumbo, 2025). Additionally, the study was an emerging and more practice-oriented phenomenon that would need a conceptual framework that would better accommodate real-world complexities.

For this study, use of a conceptual framework allowed me to incorporate various concepts related to the study. Furthermore, a conceptual framework offered me room to clarify the relationships and processes involved in the study through a visual map

that no existing theories would capture. Finally, a conceptual framework provided a blueprint for data generation and analysis ensuring rigor and coherence in the study process (Maxwell, 2021).

Several scholars have attempted to define a conceptual framework in various ways. Salawu, Shamsuddin, and Bolatitio (2023) view the conceptual framework as a representation of the core aspects of the study using either narrative descriptions or through graphical means. By depicting the key aspects of the study, the central elements of the study are clearly highlighted. This issue of core aspects of the research emerged from prior studies, as illustrated by Van der Waldt (2020), whose study identified components of a conceptual framework to include study variables and their relationships. Thus, conceptual framework not only spells out the study concepts but how such concepts are interlinked. Conceptual framework is a blueprint for guiding research process and for explaining the association among the study variables, Moschis, 2024). Similarly, Crawford (2020) views the conceptual framework as a structure or design of the research. As a blueprint, a conceptual framework works as a guide for researchers, offering a structured avenue for exploring the phenomenon under investigation.

Theories are also an important component of the conceptual framework. Conceptual framework explains how theories inform each other and how they influence all aspects of the study. This conceptual framework serves as a structured lens through which to explore the link among the key concepts, paradigms and theories that provide a lens to this inquiry. One study may include one or more theories to inform the research processes. By establishing this framework, the study integrates theoretical perspectives, methodological orientations and practical insights, ensuring that the research is rooted in a coherent and well-defined foundation. The chapter delineates the paradigms and theories guiding the study, outlining the interconnections among the concepts, and highlights the framework's significance in achieving the research objectives. Apart from exploring relationships among variables, conceptual framework also justifies the reasons behind the conducting of the study. It thrives to answer questions on the significance and contributions that the study makes to existing knowledge (Lara, 2020). Overall, the literature on the meanings of conceptual framework underscores its significance as an important tool in qualitative research.



Source: Compiled by the author on CANVA for this study, 2025)

Figure 3.1 Visual representation of the Conceptual Framework

3.3 Guiding paradigms: Interpretivist and Critical Theory

Two crucial paradigms serve as the lens through which lived experiences of access and support to online learning in marginalised early childhood settings can be critically explored. These are interpretivist and critical lenses. Interpretivist seeks to understand the lived experiences of digital learning from the voices of those under investigation. According to Potrac, Jones, Hall, Ives, Morgan, and Nelson (2025), the interpretivist paradigm seeks to explore people's meaning-making on experiences of their lives. The research is situated within an interpretive paradigm to allow for a deeper exploration of how marginalisation manifests in early learning spaces.

The critical lens on the other hand, challenges systemic power dynamics responsible for perpetuating marginalisation. It examines the oppression and inequalities existing in communities (Waldron and Krane, 2025). It provides a lens to analyse the structural barriers to online learning access in marginalised communities, investigate how socio-political and economic factors shape teacher agency and digital learning adoption and to advocate for equity and social justice in early childhood education (Rogowski and Le Thi, 2025). It advocates for policy reforms and targeted interventions to ensure equitable access to online learning (Paradis, Nimmon, Wondimagegn and Whitehead, 2020). The use of these two paradigmatic lenses offers complementary perspectives,

which assist in exploring the phenomenon at hand. Since the study context is marginalised communities, it is significant to explore access to online learning through the lenses of paradigms that seek people's voices in understanding the social world and to challenge the inequalities faced in such localities.

3.4 Key concepts and their associated theoretical foundations

The study identified five key concepts as key building blocks for access and support to digital learning which are policies, marginalisation, digital learning, teacher beliefs, and stakeholder involvement. An improvement in any one of these components is a move in the right direction towards access to early digital learning and an end to marginalisation in educational contexts. This is so because each concept has a crucial role to play in facilitating access to online learning. The identified constructs were explored through four central theories, Ecological Systems Theory, Post-Colonial Theory, Cognitive Dissonance, and Actor Network Theory. These four theories are foundational in understanding online access for learners in marginalised ECD settings. Of these four theories, only three were prioritised as the basis for analysing the generated data in the finding's chapters. Bronfenbrenner's Ecological Systems Theory informed analysis of the chapter on policies as well as on strategies for improving access to digital learning. Cognitive Dissonance theory provided the foundation for analysing teacher beliefs while post-colonial theory offered a lens to analyse challenges of digital access. Actor Network Theory was sparingly used to avoid dilution and enhance analytical depth. Highlights of the connections between each theory and practice as well as how each theory specifically address the unique challenges faced by marginalised ECD settings in Buhera District were given under the discussion of theories. Apart from informing the data analysis process, the conceptual framework provided a lens for research questions. The research questions emerged from the central constructs identified for the conceptual framework.

3.4.1 Policies and Systems change

Two constructs, policies and systems change were discussed under one theme because they are framed with one theoretical lens. Since the study emphasises the development of robust policies as pillars for access and support to digital learning,

including them in the conceptual framework was significant. Policies set the pace for improving the rural contexts, making them ready for early digital learning. However, marginalised groups are normally excluded from national educational policies, denying them their right to education. Sitorus, Handayani, and Astuti (2023) further highlighted the exclusion of marginalised individuals in policies, which limits their access to quality education.

Systems change was another construct for discussion. A system from the perspectives of Hassan, Obaid, Ahmed, Abdelrahman, Adam, and Adam (2020) is a set of interrelated elements working in harmony to attain a common goal. For this study, online learning initiatives is considered a system with families, schools, Ministry of Education, Teacher Training Institutions, private institutions and the government as the system components. Any digital improvement made on system components contribute positively towards access to online learning. The advancement of online learning initiatives for marginalised early childhood settings demands extensive systemic transformations. This includes micro level systems such as the family and school, the meso-level systems like the teacher training institutions and macro level national structures and policies. Systems change is a crucial concept of this study since changes within systems are needed to move the online learning agenda forward. The inclusion of systems changes in the conceptual framework offer the researcher a platform to interrogate systemic areas that need to be transformed to pave way for the adoption of digital learning in marginalised early childhood settings.

3.4.2 Theoretical underpinning of policies and systems change: Ecological Systems Theory

The development and implementation of policies as well as the transformation that different ecological systems need to advance the online learning initiatives for learners in marginalised early childhood settings were informed by Bronfenbrenner's ecological systems theory (1994). Bronfenbrenner's theory assumes that access to digital learning in underserved communities is influenced by the interaction of multiple nested systems, microsystem to chronosystem (Bronfenbrenner and Evans, 2000). It is therefore critical to develop policies that corroborate with these systems to improve access to online learning resources for learners in marginalized early childhood

settings. At micro level policies are needed to promote online learning resource provision in locations with limited resources such as the digital devices and the internet. Policies may as well target the acquisition of digital skills by parents and teachers to create a seamless online learning environment free of digital literacy gaps issues. This was supported by Samane-Cutipa, Quispe-Quispe, Talavera-Mendoza and Limaymanta (2022) whose study highlighted the need to urgently develop educational policies to address the digital gaps currently obtaining in marginalised communities. At mesosystem level, policies should promote the interaction of families and schools with the goals of promoting access to digital learning for young learners. Schools should do their best to ensure that families are geared up to assist their children during online learning sessions. At exosystem level, the government through policies needs to guarantee that subsidies are available for schools so that schools have access to internet all the time. The ecological systems theory demands holistic methodology involving qualitative case studies, interviews and observation to analyse how proximal interactions involving the family and school and broader societal structures such as policy shape digital equity. This theory was adopted as a data analysis approach, where data generated through document reviews, interviews and observation was coded based on the five ecological systems to understand how different levels interact to enable or hinder online access. This theory shows that fixing online learning in Zimbabwe' marginalised ECD settings requires addressing the entire ecosystem, from providing local infrastructure (microsystem) to equitable national policies (macrosystem). Based on this theory, it was clear that limited access and support to online learning is not a personal failure but the results of intersecting barriers within the child's ecology. The ecological systems theory also greatly informed the development of the framework for action.

3.4.2 Online learning

Online learning has been defined in various ways in literature. According to Greenhow, Graham, and Koehler (2022), online learning is a teaching and learning mode where teachers and learners interact through digital technologies. Similarly, Dhull and Sakshi (2017) view online learning as the practice of imparting education through a variety of digital channels, like the internet, emails, audio, and video conferencing, is referred to as "online learning. In Dhawan (2020)'s opinion, online learning is a method for making

the learning and teaching process more learner-centred. From the lenses of Balachandran and Mahalakshmi (2023), online learning is seen as the learning platform that uses the internet and electronic devices to deliver content during education and training. A definition by Pandey, Srivastava, and Chatterjee (2023) further stipulates that online learning is a form of learning that ensures that learning takes place from anywhere and at any time. Online learning is an emerging tool for knowledge acquisition which is critical as an alternative to face to face teaching and learning approaches (Fenteng, 2023).

The literature scanned revealed that online learning is a process that involves interaction between teachers and learners shaped by technology. It is a multimodal approach for delivering content to young learners which offers learners the opportunity for autonomy and engagement. The definitions portray online learning as a resource intense initiative, requiring technological infrastructure for its execution. Online learning has proven to be an enabler of learning beyond time and boundaries and an opportunity for continuity of learning during crisis times.

3.4.2.1 Theoretical underpinnings of online learning: Actor Network Theory

Access to online learning for marginalised early childhood settings can be strengthened through the lenses of Actor Network Theory (ANT). This theory conceptualises society as a network of actors that are interconnected. These include both human and non-human components such as people, institutions, technologies, gadgets and concepts (Heeks and Stanforth, 2013). Actor Network Theory (ANT) posits that all actors, regardless of their nature, possess agency, thus, they can influence and shape societal processes and interactions. This perspective challenges the traditional lenses by assigning equal value and importance to both human and non-human actors within a network. According to Awa, Ukoha, and Eke (2016) Actor Network Theory (ANT) recognises the diverse roles played by various actors in the access and support for the utilisation of emerging technologies in marginalised early childhood settings. Thus, both individuals and technological objects such as electronic devices are considered agents of change within the network. For this study, ANT underscores the importance of teachers, learners, and parents' digital skills that enable them to function effectively in an online learning environment. It further signifies

the importance of the internet, power, and user-friendly devices that learners could use during online learning. The absence of one actor will render the network ineffective. The theory is both the foundation for understanding online learning and a lens for tracing human and non-human actors in the finding's chapters. By treating both human actors and non-human actors as equally important, ANT helps identify the specific broken links that prevent equitable access to digital resources. The tracing of network of actors involved in online learning, would assist in addressing the unique challenges faced by many ECD settings in Buhera District which could be both human or non-human in nature.

3.4.3 Teacher beliefs

Various scholars have attempted to explain teacher beliefs in diverse ways, which has led to a lack of consensus regarding a universal definition. Viswanathan (2019) defines teacher beliefs as individual views, preconceptions, and mind sets that teachers hold about various elements of learning and instruction. Similarly, Santos and Miguel (2019) defines these beliefs as personal conceptions that help inform teachers' judgments and actions. Wolf and Brown (2023) further explain that teacher beliefs are cognitive structures that govern teachers' interactions with learners. While Viswanathan (2019) and Miguel (2019) emphasise personal cognitive structures of teacher beliefs, Wolf and Brown (2023) extended this argument by linking these beliefs to tangible interactions within the classroom. Additionally, Gilakjani and Sabouri (2017) describe teacher beliefs as their viewpoints on the process of instruction and learning. These beliefs can influence teachers' classroom practices, decision-making processes, and relationships with learners (Wang and Yang, 2021).

Teacher beliefs might include perspectives on learners, curriculum, instructional strategies, assessment, and classroom management (Wang and Yang, 2020). Tondeur, van Braak, Ertmer, and Ottenbreit-Leftwich (2017) offered a contextual and social dimension of teacher beliefs by defining it as accepted psychological interpretations that shape teaching practices and pedagogical decisions. Similarly, Kagan (1992) provided a definition that connects teacher beliefs to their socio-cultural and contextual influences. He highlighted that teacher beliefs are shaped by their lived experiences, professional training and the environment they work in. This perspective

situates teacher beliefs within broader cultural framework, underscoring that beliefs are not static but dynamically influenced by the educational context.

These multifaceted perceptions of teacher beliefs underscore the complexity of their role in transforming the digital learning space for learners in marginalised early childhood settings.

3.4.3.1 Theoretical underpinnings of teacher beliefs and practices: Cognitive Dissonance

Leon Festinger (1957) proposed a cognitive dissonance theory, which was described as individuals' psychological discomfort that results when their beliefs and actions are misaligned, influencing the decision-making processes. This theory is particularly relevant for studies exploring the dissonance that may arise in teachers due to inconsistencies between their prior beliefs of face to face teaching and the new demands to shift to online learning. Through this theory, tensions that influence teachers' willingness and ability to adapt digital learning practices, as well as ways to cultivate positive digital beliefs, are interrogated (Bran and Vaidis, 2020). Although cognitive dissonance was explored in educational contexts as advocated by McGrath (2020), very few focused on the dissonance that teachers experience as they shift to a digital teaching and learning space. The inclusion of this theory in the conceptual framework to inform an understanding of teacher beliefs can lead to improved digital teaching practices and learning outcomes.

There are ideas that offer insight into teachers' beliefs. Cognitive dissonance theory, for example, gives a useful understanding of the complexities of teacher beliefs as well as how they overcome the challenges of reconciling their beliefs with their methods of instruction. Cognitive dissonance, according to Zaier and Maina (2023), refers to emotions of discomfort that develop when a person's behaviour or attitude contradicts the person's beliefs and principles. Teacher beliefs and practices can be investigated via the perspective of cognitive dissonance theory, which investigates the discomfort people feel when they have contradictory ideas (Kruglanski ...et al., 2018).

Addressing cognitive dissonance in the academic profession allows for opportunities for professional growth, adaptation, and improved instructional techniques, thereby benefiting both instructors and students (Yang, Ozbek, and Cho, 2023). It provides

insight into how cognitive dissonance could impact teacher attitudes and practices in the setting of online learning (Tanneberg ...et al., 2019). Additionally, cognitive dissonance theory can shed light on how teachers' attitudes and practices change. Teachers may feel cognitive dissonance when they meet new knowledge or experiences that contradict their prior views (Treacy and Leavy, 2023).

This cognitive dissonance can lead them to reflect and potentially alter their beliefs to minimize the discrepancy (Treacy and Leavy, 2021). Teachers, for example, may experience cognitive dissonance when comparing new methods of instruction to their current practices when participating in professional growth initiatives that introduce them to new approaches to instruction. This cognitive dissonance may force them to reassess their beliefs and alter their educational techniques. Using cognitive dissonance theory as a framework, we may create a more thoughtful and proactive educational system that prioritizes the development of teachers' beliefs and behaviours.

Adopting cognitive dissonance theory would aid in comprehending the obstacles and disputes educators can encounter when their views are incompatible with the ways they teach or the diverse needs of their learners. Using cognitive dissonance theory increases teachers' knowledge of the best tools for dealing with cognitive dissonance, allowing them to get involved in self-reflection and make adjustments that will enhance their teaching and build more equitable and successful learning environments. This is critical as the foundation for working to modify teacher beliefs, which will subsequently lead to changes in classroom practices. Teachers with positive beliefs about the efficacy of online learning in early childhood are likely to be agentic, working tirelessly to promote its use in underserved communities (Biesta, Priestley and Robinson, 2015).

3.4.4 Marginalisation

Marginalisation is one of the world's oldest concerns which enjoyed existence in both colonial and post-colonial periods. It impacted on so many families across the globe. The process of marginalisation began with colonialism, where white settlers displaced indigenous people to the periphery of spatial, social, economic, and political contexts (Mowat, 2015). This historical context is crucial in understanding the systemic nature of rural disadvantage. Marginalisation is a result of power dynamics, where those at

the centre exert power over those at the margins (Aceska, Heer, and Kaiser-Grolimund, 2019). It is a process that leads to a lack of access to civic services and governance mechanisms, exacerbating the voicelessness and powerlessness of certain individuals (Ghosh (2020). In rural areas, this can manifest as a lack of influence or power over decisions that affect their communities. To fully unravel the complexities of marginalisation in remote rural areas, it is essential to understand the impacts of colonial legacies (Gobo and Cellini, 2020). Gobo and Cellini point out that to understand the problems of marginalised people; one would have to make a thorough analysis of the historical basis of colonialism, hence the need for this part of my literature review.

3.4.4.1 Marginality

Marginality is another important concept to consider while discussing colonial histories and how they still affect modern society. Marginality is not just a present condition, but a historical one rooted in colonial practices. It provides a framework for understanding how colonial histories continue to perpetuate inequality and marginalisation. According to Varghese and Kumar (2022), marginality is an indicator of inequality in a particular social context and period that identifies the extent of disparity that individuals or groups experience. The unfair experiences that marginalised individuals go through are a result of hierarchical systems and institutions that cause different social groups to receive resources and opportunities at varying rates.

According to Von-Braun and Gatzweiler's (2014) research, marginality can be broadly understood as people's life circumstances that prevent them from utilising opportunities and resources. Marginality, according to Gatzweiler, Baumuller, von Braun, and Ladenburger (2011), is the condition in which individuals or groups exist outside of the center of social, political, ecological, and economic systems. Past colonial activities that pushed some populations to the margins of hierarchical decision-making processes can be linked to the marginalisation of some groups.

3.4.4.2 Margins

The other issue in the understanding of the impact of colonialism in the creation of disadvantages for some sectors of the world population is to explore the concept of

margins. Viljoen (1998)'s research heralds a new era in the understanding of the margins. The research introduces a novel example of the margins using the book margins we all know. The society is seen to have the structure of a book page which is demarcated by margins. In his opinion, Viljoen, contextualises book margins as signifying the end of writing space and not part of what is written. Anything written on or beyond the margins is not valued. The analogy of book margins provides a visual representation of the social structure, where the hegemonic class occupies the central space, and marginalized groups are relegated to the edges. This is a clear manifestation of how colonial powers have historically occupied central positions of power and wealth. From Lancione's (2016) perspective, the margin is a situation where some individuals are placed on the other side of a border, whereas others are on the inside. The idea of the margin as a border underscores the division and separation inherent in marginalisation. Thus, the colonial powers established physical and symbolic borders through segregation policies and practices. Ashcroft, Griffiths, and Tiffin (2007) believe that the experience of being marginal denotes that some forms of experiences among the marginalised individual are peripheral. This notion of marginal experiences as peripheral highlights the lack of representation and visibility of marginalised groups. It also shows how colonial narratives neglected the experiences and voices of the colonised. According to Thomas (2012), the feeling of being on the edge of something is the most painful experience people in the margins encounter. The painful experience of being on the edge emphasizes the psychological impact of marginalisation. This perspective can as well explain the personal and collective trauma experienced by marginalised groups as a result of colonial practices.

The concept marginalisation formed part of the conceptual framework as both the context and problem of the study. It is the central theme in understanding digital challenges of the margins. The historic policies and practices created borders between the rich and the poor (Bird and Edwards, 2014). Some places and individuals were excluded from enjoying opportunities that the education system brings. According to Blandford and Burkey (2023) access to education is the sole opportunity to social mobility for children in marginalised settings. By understanding the concept marginalisation and its associated terms like marginality and margins will help in explaining how come some places remained so undeveloped whilst others progressed over the years. This understanding is critical for knowing which intervention strategies

work best in these communities (Sum, Moorosi, Ali, Mihut and Gindidis (2025). Moreover, the provision of sustainable answers to the issue of marginalisation require not only policy reform but initiatives that emancipate those in underserved communities to fully engage with emerging technologies (Hoa and Minh, 2023).

3.4.4.3 Theoretical underpinning of rural marginalisation: Post-colonial theory

The understanding of marginalisation and its related concepts can be informed by post-colonial theory. Samantha (2021) views post-colonial theory as a way of contesting colonial ideologies that exist in European texts about the colonies. Post-colonialism is the critical analysis of the loss of identity, power, and culture of certain groups of people as a result of being dominated by a conquering force (Khanal, 2012). Rukundwa and van Aarde (2007) define post-colonial theory as challenging exploitative and discriminative practices that exist in communities. According to Elam (2019) post-colonial theory is a school of thought predominantly focused on analysing the ideological, economic, and social effects of European colonial control around the world. Elam further stipulates that the core tenet of post-colonialism is that people can only fully comprehend the reality of the world they live in the context of the history of imperialism and colonialism. Post-colonial theory is one of the critical theories with a desire to scrutinise why, especially the victims of colonialism were and are still struggling to fight poverty and improve their communities.

Postcolonial theory has several proponents, those who believe the aftermath of the colonial era can only be addressed through this theory. Key tenets of postcolonial theory involve Gaythri Spivak, Leela Gandhi, Mahmoud Mmdani, Edward Said, and Francis Nyamjoh. From the perspectives of the above theorists, more light on postcolonial theory has been offered. From a Spivakan (1988) lens, postcolonial theory is a movement aimed at bringing the concerns of the voiceless to the table. Spivak referred to the people who are marginalised and could not speak the "Subaltern." She believed postcolonial theory is one way of ensuring the representation of people in the periphery of community life and intervening concerning colonial-based challenges that confront them. According to Gandhi (1998), postcolonial theory is an attempt to get rid of bad memories of colonialism and establish a new beginning where people in different contexts enjoy life to their fullest

potential. It is an attempt to attend to the aftermath of the European invasion. In Mamdani (2005)'s view postcolonial theory is a critical way of questioning the continued existence of colonial identities among the indigenous people decades after the colonial masters left. He showed how postcolonial institutions though free from colonial influence remained crippled by the absolute power of latent prejudices.

Post-colonial theory contests the existence of colonial power dynamics that created marginalised communities and the sufferings that individuals experience. Postcolonial theory advocates for the decentralisation of power and the empowerment of marginalised communities. Postcolonial theory seeks to challenge and dismantle these systems to address the disparities experienced by different social groups. Postcolonial theory seeks to challenge these power structures and advocate for social change. It challenges these power dynamics and advocates for ways to address the resulting marginalisation.

Although post-colonial theory has been identified as a crucial avenue to understand the marginalisation of remote rural areas using colonial experiences, there are some counter arguments to its claims. As post-colonial theory explains the origin of marginalisation from colonialism, other researcher argue that the marginalisation of rural communities is not solely a result of colonisation but due to other factors such as geographical isolation, limited policies, and investment in rural projects. Some argue that marginalisation is there even in the former colonising states an indication that marginalisation is partly a result of colonialism and multiple factors account for the marginalisation of people.

3.5 The interconnectedness of concepts in the conceptual framework

Five concepts were included as elements for the conceptual framework as shown on the graphical presentation above. These concepts interact to facilitate access to online learning in marginalised ECD settings. Each concept plays a critical role in the journey to access and support for online learning. Online learning as one of the elements is the core outcome in the conceptual framework. To achieve the shift to online learning for learners in marginalised communities requires a supportive ecosystem where all the identified elements of the conceptual framework work together to fight all forms of obstacle that hinders successful access to digital learning. Policies were included in

the framework as the foundation for online learning access. National policies are needed to compel teacher capacity development for teachers ensuring that they are ready to work in an online learning environment effectively. The training can strengthen teacher agency and develop positive beliefs about online learning in early childhood. Thus, having policies tailored to empower teachers would give them the autonomy to effectively navigate the online learning environment. Policies are also needed in ensuring digital transformation for ecosystems involved in children's learning. Marginalisation in education can be tackled when policies are in place to promote access to resources for learners in underserved communities. Access to online learning requires some conceptual framework elements that act as the gatekeeper to implementation. Teacher beliefs were included in the framework to take care of this role. Teacher beliefs influence teacher agency, this can be reflected when teachers with positive online learning beliefs exercise their agency in moving the online learning agenda forward.

3.6 The interconnectedness of theories in informing access to online learning

Most theories that informed this study thrive to identify key stakeholders and infrastructure needed to move the online learning initiative forward. From the perspectives of Actor Network Theory teachers, parents, teacher training institutions, the government, policymakers, private players and non-human actors such as electronic devices and digital tools need to form a network of support. Similarly, the ecological systems theory also identifies multiple levels where digital interventions are needed. The actors as identified by actor network theory and the multi-levels which ecological systems theory highlights may have conflicting beliefs regarding the utility of online learning in ECD. Through cognitive dissonance these conflicting views can be identified and efforts to develop positive beliefs can be sought. The ecological systems theory, identified layers of concern in online learning access metrics. Access to online learning from the ecological systems lens needs to be approached from the systems perspective where all elements of the system work together for the betterment of the whole.

3.7 How the framework addresses the unique challenges of the margins

The framework combats the digital divide in marginalised communities by positioning access and support to online learning at its center and connecting this to practical domains of policy, teacher practice, and systemic change. It highlights how exclusion is not only about the absence of devices or connectivity but also about the interplay of weak infrastructure, limited teacher preparedness, and inadequate policy responses. By drawing attention to teacher beliefs and agency, the framework ensures that local perspectives and lived experiences are not overlooked, making solutions more culturally relevant and sustainable. At the same time, its focus on policies and systemic change emphasises the need for structural reforms that address historical inequalities and ensure equitable distribution of resources. The framework also underscores the importance of interconnected strategies—such as community engagement, teacher training, and infrastructural investment, rather than isolated interventions, thereby promoting holistic solutions. Ultimately, it provides a critical lens for analysing how digital changes are experienced in marginalised contexts and offers a roadmap for embedding equity and justice into the design of online learning initiatives.

3.8 Conclusion

The chapter provided a detailed analysis of the conceptual framework that guided the research study. In this chapter, key concepts of the study and the theories guiding each concept were identified. The concepts covered include online learning, teacher beliefs, policies, marginalisation, teacher agency, and systems change. The online learning concepts are explored through the actor network theory, teacher beliefs through cognitive dissonance theory, marginalisation through post-colonial theory, teacher agency through social learning theory, social change through systems thinking theory, and policies through ecological systems theory. The conceptual framework has theories that are purposefully aligned to themes. These theories ensure that findings are not only just described but are interpreted, explained and positioned within broader theoretical discourses. A graphical representation of the conceptual framework was provided to show these concepts and theories. The chapter also highlighted the interconnectedness of both the concepts and the theories. By establishing a clear and well-defined framework, this study aimed to contribute to the understanding of the

research topic and provide a solid foundation for subsequent analysis. This framework was instrumental for integrating, connecting and translating findings into meaningful insights. Its concepts-oriented nature allows for multi-level analysis of the data.

The next chapter delved deeper into the research methodology, data collection, and analysis, building upon the conceptual framework established in this chapter. In brief, the concepts and theories of this conceptual framework interact to collectively contribute to online learning access for young learners in marginalised communities.

CHAPTER 4

Research design and methodology

4.1. Introduction

The literature study about lived experiences of access and support to online learning for learners in marginalised early childhood settings was covered in detail in the preceding chapter (3). The literature chapter presented what prior studies found out about the study topic highlighting the gaps in knowledge. The current chapter (4) presents the study's methodology, which was used in exploring the study objectives and research questions. The reasons behind the selection of methodological components were provided. The chapter begins by exploring the challenges of conducting research in rural locations along with the researcher's reflexivity and positionality. The research paradigms, the research approach and the design were discussed in detail. The chapter further presents the study's participants and sample. The chapter presents convenience and purposive sampling as the appropriate ways of selecting research sites and the participants respectively. The chapter includes a section of how data was generated and analysed. Data was generated using semi-structured interviews, observation, and Qualitative Document Analysis (QDA). Data analysis followed Braun and Clarke's (2021) thematic content analysis model. The chapter also included a section on how the trustworthiness of the study and ethical consideration were addressed.

4.2 Research paradigm: Interpretivist and critical paradigms

The concept research paradigm has ancient roots. It is a brainchild of Thomas Kuhn who first advances this concept in 1962. A research paradigm, according to Kuhn (1962), is a group of common values, principles, and procedures that characterizes how the scientific community understands a given field of study. A research paradigm according to Khatri (2020) is a viewpoint that informs how well researchers confront their research topics and considers the research methodology components of their research in relation to a particular philosophical framework. Perera (2018) sees research paradigms as a collection of shared assumptions and understandings among

scientists regarding how problems might be understood and resolved. Research paradigms are crucial for research undertakings as they provide researchers with a framework for understanding their research questions and for designing experiments to test their hypotheses (Park, Konge, and Artino, 2020). A research paradigm, in general, is a philosophical framework that provides a foundation for understanding the fundamental assumptions that guide research and supports maintaining consistency and coherence in research practices within a certain subject

A research paradigm is composed of three components, ontology, epistemology and methodology. Ontology as according to Scotland (2012) is the realm of philosophy which deals with the fundamental beliefs we hold about the nature of existence and what is real or meaningful. Researchers' perceptions of reality and the objects they study depend on their ontological perspective which ranges from objectivism, which maintains that reality exists regardless of how people see it, to constructivism, which claims that reality is socially created and subjective. Epistemology pertains to how knowledge is gained and what exactly qualifies as legitimate knowledge (Kivunja and Kuyini, 2017). Positivism which emphasises using scientific procedures to get objective knowledge, and Interpretivist which stresses the value of personal experience and context in comprehending phenomena are the two epistemological stances. Thus, epistemology is the study of knowledge and how it is acquired, organised and utilised. It is the component of a research paradigm which refers to the procedures and techniques used to conduct research (Creswell, 2014). Denzin and Lincoln (2018) view it as a set of guidelines, processes, and tools used to gather and analyse data to address a research question or series of questions.

Authors concur and differ on the types of paradigms that exist to explain world reality. Creswell (2014) identifies three main research paradigms as quantitative, qualitative, and mixed methods, while Lincoln and Guba's (1985) identified four types of research paradigms as positivism, interpretivist, Critical theory, and Constructivism. Zukauskas, Vveinhardt, and Andriukaitiene, (2018) claim that there are four major schools of research paradigms which are positivism, interpretivist, pragmatism, and realistic paradigms. Assumptions concerning what counts as reality, knowledge, and the function of the researcher may vary among authors. These assumptions can influence the type of research paradigm they choose to adopt, and therefore, the types of research methods they consider appropriate differs. Different research questions and

objectives may require different research paradigms and methods. For example, a study that aims to test a hypothesis using quantitative methods may require a different paradigm than a study that aims to explore people's experiences and perspectives using qualitative methods. Authors may have personal preferences and biases towards certain research paradigms. These preferences and biases can influence their choice of research paradigm and the way they interpret and present their findings.

Two crucial paradigms serve as the lens through which lived experiences of access and support to online learning in marginalised early childhood settings can be critically explored. These are interpretivist and critical theory paradigms. Interpretivist seeks to understand the lived experiences of digital learning from the voices of those under investigation. According to Potrac, Jones, Hall, Ives, Morgan and Nelson, (2024), interpretivist paradigm seeks to explore people's meaning making on experiences of their lives. The research is situated within interpretive paradigm to allow for a deeper exploration of how marginalisation manifests in early learning spaces. The study sought to understand the meanings that people from marginalised populations attach to their experiences, so employing an interpretivist paradigm that underscores comprehending the subjective meanings of people was inevitable. Interpretivist research emphasises the consideration of the cultural and social setting in which people live and how they shape their experiences. This is especially important when studying marginalised communities, where economic and social variables may have a significant effect on access to education.

For data generation, interpretivist research typically employs qualitative research techniques like interviews, observation, document reviews and focus groups. These methods are especially well suited to studying people's experiences because they allow for in-depth inquiry of individual experiences. The primacy of reflexivity, that is the researcher's consciousness of his or her own biases and assumptions, is emphasised in interpretivist research. This is especially important for me because I conducted research in marginalised groups in which I possess minimal experience and a clear grasp of the context.

Collaborative effort between the researcher and participants is common in interpretivist research, with participants taking a lead in shaping the research process. For this reason, I regard my participants as the expert and I created a comfortable and non-threatening environment to encourage participants to share their thoughts and

experiences. I was as well actively listening to what participants say and asking relevant questions to make them feel heard and valued. This is particularly crucial when interacting with marginalised communities because it can assist in establishing confidence and guarantee that the research is sensitive to participant needs. I provided feedback to participants on how their input is being used and the progress of the research. Interpretivist research emphasises the importance of uncovering multiple points of view. This can help in developing a more in-depth understanding of the issues at hand. Multi-sited case studies were considered for this study based on this attribute of the interpretivist paradigm.

Critical theory on the other hand, challenges systemic power dynamics responsible for perpetuating marginalisation. It examines the oppression and inequalities existing in communities (Waldron and Krane, 2025). It provides a lens to analyse the structural barriers to online learning access in marginalised communities, investigate how socio-political and economic factors shape teacher agency and digital learning adoption and to advocate for equity and social justice in early childhood education (Rogowski and Le Thi, 2025). It advocates for policy reforms and targeted interventions to ensure equitable access to online learning (Paradis, Nimmon, Wondimagegn and Whitehead, 2020). Acknowledging power relationships and also how they frame individual experiences is a major focus of critical research. This is especially true when researching marginalised communities, where power dynamics may have a substantial impact on educational access. By bringing to light the perspectives of marginalised communities and championing for changes in policy to improve access to education, critical research paradigm has the potential to contribute to social change. This augurs well with the objective of the research study which is to develop legislative framework that promote access to online learning by every child especially those in remote rural areas.

The use of these two paradigms offers complementary perspectives, which assist in exploring the phenomenon at hand. Since the study context is marginalised communities, it is significant to explore access to online learning through the lenses of paradigms which seek people's voices in understanding the social world and to challenge the inequalities faced in such localities.

The philosophical orientation of the current study is shaped by the lenses of two paradigms, the interpretive and critical paradigms. The two paradigms contribute complementary lenses for conceptualising the epistemology, ontology and methodology of the study. Thus, the study values the richness of the lived narratives which were captured by the interpretive orientation and it also challenges dominant discourses through the critical lens.

The interpretivist paradigm influences my epistemological standing. This orientation made me to realise that knowledge is imbedded in meanings that individuals attach to their experiences. It offers a lens for exploring how teachers and school heads in marginalised communities perceive and make sense of online learning access. The scope of this study demands the use of two paradigms since it is concerned with structural inequities and systemic exclusion. For this reason, I also draw from the critical paradigm which foregrounds the role of power in shaping what is known. Through critical paradigm, both lived experiences of access as well as broader socio-political forces shaping the experiences were interrogated.

Ontologically, interpretive paradigm informs the position I adopted that reality is multiple in nature and is socially constructed. The interpretive orientation, compels me to understand that participant's reality is influenced by the interaction they make in their local settings as well as the lived histories. In communities where realities are diverse as in marginalised ECD settings, sensitivity to local meanings is imperative. The critical paradigm offers a lens for acknowledging factors that shape the realities of the people in underserved communities such as the socio-political forces. Through this paradigm, I realised that the digital divide that characterises the marginalised ECD settings is not just a resource gap but the perpetuation of systemic exclusionary policies and practices. My ontological stance recognises reality as co-constructed through human experience and at the same time produced by structural forces.

With these two paradigms as the study lens, the research adopted a qualitative approach where semi-structured interviews, document review and observation were employed as methods. This methodological combination collectively assisted in eliciting rich accounts of how online learning is accessed, supported and experienced in marginalised ECD contexts. Premised in the critical domain, I engaged with power centres, exploring how policy frameworks, teacher training systems and online

learning infrastructure shape access to online learning. The integration of interpretive and critical paradigms offered me an avenue to engage with lived experiences of access and support to online learning for learners in marginalised ECD settings while positioning such experiences within broader structures of power and exclusion. This philosophical grounding guarantees that my study is sensitive to the context of the participants it is studying.

4.3. Research Approach

The phrase "research approach" describes plans and techniques for executing investigations that range from broad hypotheses to particular methods for obtaining, analysing, and interpreting data (Creswell, 2018). Qualitative study is founded on the core tenet that reality is a construct that each individual develops based on his or her unique interactions with the world (Cropley, 2022). Creswell (2014) established the idea that research methodologies can be divided into three categories: mixed-methods, qualitative, and quantitative. Of these three, only qualitative research approach was discussed in depth since it was adopted for this study.

A qualitative approach is a way to look into and understand the significance that different people or groups place on a given social or human issue (Creswell, 2014). According to Bhawna and Gobind (2015) qualitative approach is a strategy used for conducting research that focuses on things as they are in their natural environments and attempts to comprehend them through the explanations that various people assign to such events. The goal of the qualitative research approach is to learn everything there is to know about a particular group or event. According to Aspers and Corte (2019) qualitative research approach is viewed as a process in which, as the researcher gets closer to the subject of the study, new, relevant distinctions are made in order to better understand the phenomenon being studied.

Qualitative research methodology has the advantage of promoting the collection of real thoughts from particular socioeconomic demographics (Mohajan, 2018). According to Creswell (2009), a qualitative research approach has the additional advantage of being an efficient model that takes place in a natural environment and allows the researcher to acquire some insight from direct participation in the actual real-life events. Another benefit of qualitative research is that it is less expensive than

other research methodologies because it utilises a smaller sample size (Vasileiou, Barnett, Thorpe and Young, 2018). According to Mohajan (2018), the use of a qualitative research approach enables researchers to investigate a range of facets of the social world, such as study participants' perceptions, experiences, and imaginations in relation to the topic at hand.

Qualitative research approach has flaws. The researcher's experience is a key component of the qualitative study (Hammarberg, Kirkman, and de Lacey, 2016). This implies that the integrity of the information acquired through qualitative research depends on the skill of the researchers involved in the process. It is therefore imperative that an investigator who is informed about the subject matter must collect information that is particular to that sector.

Although it is the first time to undertake qualitative research of this magnitude, carrying it out alongside a well-seasoned supervisor reduced the impact of researcher's research experience on the results. In qualitative investigations, the researcher's bias, may affect the research outcomes, claims Yoon and Uliassi (2022). The use of qualitative research methods is criticised for resulting in a collection of arbitrary and possibly unreasonable perceptions obtained by biased researchers. This being one among the limitations of qualitative research, the study responded to this criticism by carefully considering all the information provided while maintaining an impartial, clear mind. This study suggests using a qualitative research methodology. It seeks to produce results without using statistical methods. Since the current study attempts to understand the subjective experience of marginalised communities through social constructions of individuals concerned using qualitative approach would be ideal.

The decision to explore the subjective experiences of rural participants was not just a methodological choice but a deliberate move to bring silenced knowledge of the margins to the shore. The exploration of subjective experiences of the remote rural individuals through qualitative research inquiry was my commitment to meaning, depth and context. By foregrounding participants' experiences of access to online learning tools through their voice, the study managed to capture how digital exclusions are felt and navigated. Although other approaches may be used such as quantitative approaches to understand access metrics, the possibility of such methodologies to fail

to capture the lived realities particularly for those in the periphery of community living may be high. This methodological choice was important to listen to the voice of the marginalised people who are most affected by digital inequities. Such subjective voices are critical in providing interventions grounded in true realities, thus, the bottom - up intervention strategies are needed in addressing digital divide and advancing online learning.

The choice of qualitative research is appropriate for addressing the objectives. The choice of this method relates to how the approach explicitly links to the research questions. The use of qualitative approach allowed me to explore policies that exist in Zimbabwe to address issues of marginalisation, access and support of online learning in ECD settings. Policy analysis benefits from document review and interviews with teachers. The qualitative approach allows me to interpret how policies are experienced and perceived in practice, not just what is written. The approach also allowed me to code policy texts and narratives for themes of equity, exclusion and implementation gaps.

For the research question that reads: *What do the beliefs of teachers suggest about the significance of online learning in ECD settings in marginalised rural communities?* The qualitative research approach allowed me to conduct interviews with school heads and early childhood teachers and district officials to capture their beliefs and experiences that quantitative surveys would miss. On data analysis, this approach enabled me to do thematic analysis of the participants' narratives to uncover tensions and contextual influences on beliefs.

I chose the qualitative approach for its relevancy in generating the main obstacles to access and support to online learning in ECD marginalised communities through the participants. During interviews participants described barriers in their own words, providing depth beyond statistics.

The research questions that reads: *What strategies exist for promoting access and support to online learning in ECD settings in marginalised communities,* would benefit from the use of qualitative approach. The approach enabled me to capture grassroots innovations through participants accounts. Through this approach, I managed to identify emergent strategies from lived experiences and I coded them as potential interventions.

Lastly, the use of qualitative approach informs the understanding of the research question that reads: How can the findings of this study inform an online learning framework of action for overseeing sustainable online learning in ECD settings in marginalised communities? By synthesising the voices of teachers which were generated through qualitative means, the study managed to develop a bottom-up framework grounded in reality. I triangulated the findings across policies, beliefs, obstacles and strategies to propose actionable recommendations.

4.4. Research design: Multi-sited case study

According to Dawson (2019), a research design is a precise plan used to gather and analyse data in accordance with the study approach selected. According to Creswell (2014), research design is the plan or strategy that shapes the study. The six main designs used in qualitative studies are as follows. These include action research, phenomenology, grounded theory, case studies, ethnography, and phenomenology.

One way to address the comprehensive nature of online learning in marginalised communities is to employ the use of case studies in research (Heale and Twycross, 2018). According to Patnaik and Pandey (2019), the utilisation of case studies might offer affordances for comprehending complicated issues, particularly under qualitative inquiries such as the present study where access to online learning in marginalised populations is examined.

This study sought to generate data from multiple sites, and this called for multi-sited case studies to be used as the research design for this study. According to Jokela-Pansini (2019), a multi-sited case study is a method for examining participants' and researchers' views outside of a single site. This study strategy examines social problems that are too complex to be well explained by a single site (Falzon, 2016).

A multi-sited case study was selected for the study design since it enabled me to obtain a holistic understanding of the issue under consideration by examining it from various perspectives and locations. Using a multi-sited case study to gain useful insights into the phenomena under study was a great avenue for me to compare the various accesses to online learning experienced by teachers working in marginalised populations across different locations. A rich data set was generated by studying multiple sites. Researching and analysing data from multiple sites enabled me to

triangulate research results and ensure the reliability and validity of the results. A multi-sited case study allowed me to recognise trends and patterns in access to online learning among children from marginalised communities in various sites, thereby offering valuable insights into the issue. A multi-sited case study enabled me to examine local access to online learning while considering the unique context and situations of each site. The findings I got from a multi-sited case study could be used to inform practice and policy related to increasing children's access to online learning in marginalised communities. A multi-sited case study helps me to generate knowledge by offering additional insight into access to online learning in marginalised communities, which can be used to inform future research and theory development.

4.5. The study context



Source: Author's own illustration

Figure 4.1 Zimbabwe map showing the study area

The study was carried out in Buhera District of Manicaland Province as shown on the map. Manicaland is the eastern province of Zimbabwe. Buhera is one of the seven districts in Manicaland province. Buhera district is composed of two economic zones namely the urban and the rural zone. Most urban dwellers are average to below average earners. The rural population is generally poor since some come from dry areas and their only means of livelihoods is mostly stream bank gardening and

vending. Prior studies particularly that of Mugumbate (2010) provides a micro-level analysis of widespread poverty, limited access to technology and degraded infrastructure in Buhera District. The district is known for its poor infrastructural development, especially in remote rural areas. This socio-economic background of the rural communities in Buhera makes the place to lag behind in economic developments including education related developments. The places lack internet connectivity and are served with poor road network systems. Most rural communities in Buhera District fall under marginalised communities of Zimbabwe. Families in remote rural communities of Buhera are characterised by lack of access to life's most significant amenities. This aligns with World Food Programme's Buhera District Profile (2022) populated which offers comprehensive data on development indicators of the district. The profile confirms the district's poor road networks and marginalisation in terms of access of various essential life amenities. The home as the child's first socialising agent lacks space for children's study, internet enabled devices and proper lighting. This background is supported by an article by Muzenda, Tsurusa, Mwenje and Bekapi (2025) that documents the infrastructural challenges in Buhera schools and the need for targeted funding in these communities. It is for this reason that this place was chosen for this study, which investigates the lived experiences of access to online learning for learners in marginalised early childhood settings. The urban zone is critical for this research to better understand the nature of online learning adoption in marginalised communities. What comes from the urban zone will aid in clarifying the nature of adoption of new technologies in those living in the peripheral space.

4.6. Population and sampling

The study's main focus is to explore the lived experiences of access to online learning for learners in marginalised early childhood settings. It is the experiences of the study population that matters here, and their inclusion in this study is critical. From the lenses of George, Gaitonde, Davey, Mohanty, and Upton (2023) the success of any research journey resides in the contributions of the study participants. A detailed exploration of the population, sample size and the sampling strategies was given.

4.6.1. Population

The target population for the investigation is outlined in this section. Population is defined as a group of people who take part in a research study (Casteel, and Bridier, 2021). According to Hossan, Dato'Mansor and Jaharuddin (2023), the population is the entire number of subjects about which knowledge is sought. The population of this study is the one hundred and forty-three (143) primary schools in the Buhera District that offer Early Childhood Education. All the primary schools in the district offer early childhood education to children aged three to eight. Most teachers teaching in the infant section are qualified and have vast experience in working with young children. The study's focus is to explore the lived experiences of the teachers in accessing digital learning. No prior experience of teaching using digital tools was required for one to participate in this study. It was from this population that the sample for the study was drawn.

4.6.2. Sample

According to Knechel (2019) a sample is a fraction of the entire population chosen for investigation. In this study, the sample comprised of six (6) school heads and twelve (12) qualified ECE teachers teaching in the 4-6-year olds classes which are identified in the Zimbabwean context as ECD B and two (2) District Officials. The study has a sample size of twenty (20) participants. The selection of the study sites and participants is elaborated under sampling procedure section.

4.6.3 Sampling procedure

According to Bhardwaj (2019), sampling is the act of picking a portion of the population from a substantial number of individuals to participate in the research process. The non-probability sampling procedure was used, with purposive and convenient sampling techniques used to determine sample size. The use of convenience sampling was a pragmatic adaptation to infrastructural barriers ensuring the inclusion of accessible and willing participants. A convenience sample, according to Andrade (2021), refers to a sample that is easily accessible to us. A convenience sample is made up of people who are readily available for the investigator and might be capable

of providing the data that the researcher requires (Mweshi and Saky, 2020). Convenience sampling is prominent because it is less expensive, takes less time than other sampling techniques, and is more straightforward (Stratton, 2021). Although it is a low-cost method, the results of studies using convenience sampling might not always reflect the characteristics of the population, and thus cannot be generalized (Kandi, 2020). While convenience sampling is not considered the most rigorous approach to sampling, I found it useful in identifying my research sites. Those sites with a geographical proximity to me and a willingness to participate constitute my sample. While relying on geographical proximity and willingness to participate was practical for this study, it may have excluded the most deeply marginalised or hardest-to-reach ECD settings, leaving room for potential bias in the portrayal of the margins. This was however kept under control by using more than one sampling technique. The shortfalls of one technique are shouldered by the other.

To study the lived experiences of access to online learning, purposive sampling is another technique that this study adopted. According to Oribhabor and Anyanwu (2019) purposive sampling is sampling with a specific goal in mind. It operates under the premise that selecting the most suitable cases for the study leads to the best outcomes and that the research results are a direct consequence of the chosen cases (Mweshi and Saky, 2020). Purposive sampling has several advantages, including the ability to target specific groups relevant to the research question, the ability to collect in-depth and rich data, and the potential for greater participant engagement and cooperation (Malek, Lim, and Tahir, 2019).

I chose purposive sampling to ensure that the sample selected aligns with the research objectives and goals. Purposive sampling was used because the study needed to identify unique cases for a comprehensive investigation of access to online learning for early childhood settings located in marginalised communities. For this reason, early childhood teachers teaching the 4–6-year-old learners in the identified schools were purposively selected as research participants. This age group is critical; it is mostly during this age group that learners can meaningfully learn using online learning modalities. Their lived experiences are significant in understanding teachers' online learning beliefs and the barriers they face in online learning environments. The sampled teachers participated in semi-structured interviews and their classes served as the research observation sites.

However, it is critical to acknowledge that purposive sampling carries the potential for bias, particularly in the subjective judgment of the researcher when identifying participants. The potential of bias in the selection of the participants, Thomas (2022), is, however, one of the greatest drawbacks of purposive sampling. The derived sample may not be representative of the target population if the researcher's criteria are vague or based on personal biases or assumptions (Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters and Walker (2020). To mitigate the potential for bias, I made sure that participants were selected based on transparent criteria for example, being ECD teachers or school heads in rural districts with limited digital infrastructure. This reduced arbitrariness in selection and ensured consistency. By including multiple stakeholders, teachers and school heads, the study avoided reliance on a single viewpoint, thereby enhancing credibility and reducing bias from overrepresentation of one category. The researcher maintained a reflexive journal to document decisions, assumptions, and potential biases during participant selection. This practice aligns with Lincoln and Guba's (1985) emphasis on transparency in qualitative inquiry. Through these strategies, the study sought to balance the strengths of purposive sampling that is depth and relevance with safeguards against bias.

The study population comprises one hundred and forty-three (143) Primary Schools, as mentioned earlier under the population section. The selection of the participants was a two-phase process that started by conveniently selecting six (6) research sites which are schools. This process began after receiving the ethical clearance from UNISA. Five (5) of the selected schools were from deep rural areas and one was from the urban setup. This was critical for comparing the experiences of those from resource-rich environments and those from limited resource landscapes. Sites were selected based on their accessibility to the researcher in terms of both physical access and their willingness to participate in the research. Pseudo identities were employed rather than proper school names to recognise the sampled schools to stay true to ethical standards of anonymity. For example, schools were identified using letters of the alphabet (School A, B, C, D, E, and F). The selected schools were in remote rural areas a context that is significant for this study.

After identifying the schools, I then requested the heads of such schools to participate in my study. I visited the selected schools, explaining the purpose of my study to school heads, and requested them to participate in the study. They all gave consent to my

request as indicated in Appendix D. School heads were chosen because they have a great role in developing all the logistics necessary for improving access to online learning. They have a responsibility for foreseeing financial matters of the school; hence, their perceptions could provide a strong basis for developing a framework of action for improving access to online learning. The data that was generated from school heads offered deep insights into the phenomenon, with data from the teachers taken as confirmatory evidence.

For the teacher sample, I used a purposive sampling technique, which was criterion-based. I sought permission from the school heads to talk to teachers requesting them to participate in my study (Appendix C). The discussion with teachers involved asking them general question, which were part of the selection criteria as I was noting their responses. I asked them to share with me the level of the ECD class that they were teaching and their experience teaching in ECD classes. I shared the purpose of my study and the ethical considerations that were to guide the research process. I then asked them to sign the consent form as confirmation of their willingness to participate and share their lived experiences of online learning access during the interview setting. Those who gave consent and teach in the ECD B class or the 4-6-year olds class were selected as the study participants. A total of twelve (12) teachers were selected. Teachers were selected because they directly engage with learners in online learning environments. Teachers form the immediate layer in young children's ecological system and they are the implementers of the online learning curriculum; hence their contribution is critical in moving the online learning agenda forward. Two district officials were purposively selected to give the management perspective at district level.

4.7 Demographic data for the study participants

Table 4.1: Demographic data for the study participants

CODE	Position	Experience	Qualification	Age
SH 1	School Head	12 years	Bachelor's degree	51
SH 2	School Head	9 Years	Diploma in Education	55
SH 3	School Head	25 Years	Bachelor's degree	61
SH 4	School Head	7 Years	Bachelor's degree	41
SH 5	School Head	11 Years	Master of Education	49
SH 6	School Head	6 Years	Diploma in Education	39
TR 1	ECD Teacher	6 years	BED in ECD	31
TR 2	ECD Teacher	9 Years	Diploma in ECD	26
TR 3	ECD Teacher	11 Years	Diploma in ECD	29
TR 4	ECD Teacher	7 Years	Diploma in ECD	34
TR 5	ECD Teacher	11 Years	Diploma in ECD	49
TR 6	ECD Teacher	3 Years	Diploma in ECD	42
TR 7	ECD Teacher	5 years	BED in ECD	28
TR 8	ECD Teacher	6 Years	BED in ECD	29
TR 9	ECD Teacher	8 Years	Diploma in ECD	38
TR 10	ECD Teacher	7 Years	Diploma in ECD	43
TR 11	ECD Teacher	17 Years	BED in ECD	46
TR 12	ECD Teacher	6 Years	Diploma in ECD	37
DO 1	District Officer	27	Master of Education	61
DO 2	District Officer	34	Master of Education	64

The demographic data of the participants shown in the table above reveal that the study participants were highly qualified to share the lived experiences of access to online learning. Both teachers, the school heads and District Officials had a qualification of some sort. Data generated with such qualified educators can be

trusted. The study participants had experience of more than five (5) years in the current position they are holding. Again, this assist in sharing lived experiences which were built over a long period of time. The age category also highlight that the study participants are mature individuals whose narrations can be trusted

4.8. Data generation technique

The study used three data generation techniques, namely, semi-structured interviews, observation and Qualitative Document Analysis (QDA). Semi-structured interviews were employed to record the participants' individualised perspectives on the subject at hand. The observation focused on the five (5) dimensions of accessibility and saw which ones were in place and the implications it has for access and support to online learning for ECD learners in marginalised communities. QDA was done to explore existing policies for clauses that strive to support access to digital learning for learning from disadvantaged communities.

4.8.1 Semi-structured interviews

An interview is a research method in which a researcher asks questions to a participant or a group of participants to generate data about their beliefs, experiences, attitudes, and behaviours (Roberts, 2020). Interviews can be conducted in person, over the phone, or through online platforms. Interviews are a popular method of data generation in fields like education, health, and social science research (Hawkins, 2018). Interviews can be classified into different categories based on their purpose, structure, and style and these include unstructured, structured and semi-structured (Creswell and Creswell, 2018). This study used semi-structured interviews for data generation. Dejonckheere and Vaughn (2019) view semi-structured interviews as a conversation between the researcher and the participant, aided by an interview schedule protocol. Semi-structured interviews were chosen for this study because they offer flexibility in the research process (Eppich, Gormley and Teunissen, 2019). This flexibility helps in adapting questions and follow-up prompts to explore more deeply into participants' experiences and perspectives (Magaldi and Berler, 2020). The flexibility also allows for a more personalised approach, ensuring that the questions are tailored to the unique context and experiences of the participants.

Twenty (20) semi- structured interviews were conducted and audio recorded with six (6) school heads, twelve (12) ECD teachers and two (2) District Officials. The interviews were about thirty (30) minutes long and were conducted in institutions where the participants work. This was critical to elicit data from participants' natural setting. To participate in the study, participants must be ready and able to give their informed consent. Participants who are unable to give informed permission, for example those with cognitive disabilities or linguistic problems, may not be part of the study. Participants are disqualified from the study if they do not match the inclusion requirements. The interviews were conducted face to face with each participant according to schedules agreed upon before the interview dates.

4.8.2 Piloting the semi-structured interviews

To pilot this study, an interview guide was created containing open-ended questions for semi-structured interviews. A small sample of two (2) school heads and three (3) ECD teachers were conveniently chosen participants to pilot the study. These participants were chosen since they hold posts like those that participated in the study. The challenges that may emerge from them could be similar to those from the main participants. Their insights guided the reworking of the study instruments, particularly in areas that proved vague and needed corrections. The pilot interviews were recorded, and notes were also made on participants' responses and any issues that arose. The generated data from the pilot interviews was analysed to identify any problems with the interview guide or process, such as unclear questions, missing or redundant information, or difficulties with the conversation flow. Using the pilot study data as the basis, the interview guide was refined. To make the guide more understandable and useful, this entailed rewording or rearranging the questions, adding or eliminating prompts, or making other adjustments. An example of such adjustments included avoiding a double-barrelled structure of my interview question, which initially reads: *How should teacher training institutions revise their programmes and train teachers to be digitally competent?*

After pilot testing I removed the second clause to focus solely on the programme revision and also added early childhood to specify teacher category, then it read:

How should teacher training institutions revise their programmes to produce digitally competent early childhood teachers?

4.8.3 Observation

The study also employed observations in a bid to understand factors that hinder or promote access to online learning in different cases of the study. Observation is the practice of gathering knowledge by maintaining a close eye on individuals, events, or objects in their natural settings (Ryan, 2022). The most accurate and desired technique of documenting human behaviour is direct observation. Instead of depending on reports, the researcher directly watched and documents the participants' behaviour. The observation approach has the drawback of being subject to the bias of the observers (Sporrong, Kalleberg, Mathiesen, Andersson, Rognan, and Svensberg, 2022). Another drawback of the observation approach is that it can be affected by the 'Hawthorne Effect'. According to the Hawthorne Effect, people frequently perform much better when they are aware that someone is observing them (Cherry, 2020). To minimise the Hawthorne Effect, the researcher adopted the "fly on the wall" presence with minimal interference with the natural unfolding of activities at the sites. The research sites were observed against the five facets or dimensions of accessibility as identified by Levesque, Harris and Russel (2013), which are approachability, acceptability, availability, affordability, and appropriateness.

The observation began with the planning of an observation guide, which specified what was to be observed, the time, date, and duration of the observation, as well as the interactions and activities that required particular attention during the study.

I used participant observation where six (6) research sites were observed. The observation began by planning of an observation guide, which specified what to be observed, the time, date, and duration of the observation, as well as the interactions and activities that required particular attention during the study needs. Much attention was given to observing the sites' physical surroundings, closeness to network boosters, availability of digital devices, connectivity to power and the internet. Moreover, the prices for devices such as Laptops, tablets, and smartphones in service shops near the sites were assessed. Teacher competences and attitudes to developing digital skills in young learners were also noted. The observation was done

at the sites which the researcher had authorisation to generate data and on the agreed day for interviews. Observation notes were recorded covering everything I saw while conducting the observation. To minimise interruption to the environment and prevent influencing the participants' behaviour, I remained discreet in performing my observation.

4.8.4 Qualitative Document Analysis (QDA)

To understand the current policy framework in the country and how it promotes or hinders access to online learning for learners in marginalised early childhood settings, policy analysis was conducted. The study proposed to use Institute of Development Studies' Impact and Learning Team (ILT) Brief of (2013) on QDA to provide insights into the policy landscape for advancing digital learning in underserved communities. QDA was employed to look at the national policies that seek to promote online learning and address marginalisation at ECD level in a systematic way (ILT, 2013).

A variety of policies, regulations and other government documents were analysed to check how they align with access and support to online learning. The documents which were analysed include the Constitution of Zimbabwe (2013), Education Amendment Act, 2020, the National Development Strategy 1 (NDS 1), the Zimbabwe Early Learning Policy (ZELP), the ICT policy, Vision 2030, Secretary Circular number 14 of 2004 and Statutory Instrument 106 of 2005. The Qualitative Document Analysis (QDA), as given by (ILT, 2013), has six components, which are setting inclusion criteria for documents, collecting documents, and articulating key areas of analysis; document coding, verification and analysis. Details of each phase are explained, coupled with what the researcher actually did.

4.8.4.1. Inclusion and exclusion criteria for policy documents

One important and initial phase of the QDA model was to set the inclusion criteria for the policy documents. The study prioritised policies and regulations that provide appropriate data to assist in meeting the study's aims. Both the Government and the Ministry of Primary and Secondary Education policies and regulations designed to support online learning and to mitigate marginalisation in early childhood education

were to be retrieved and analysed as secondary data sources for this study. So, policies that exist but did not contribute to the realisation of the study's aims were excluded from this document review process. Included in the criteria was the publication date of the policy or regulation. The study concentrated on policy documents published after 2004, the year ECD programme was formally incorporated into Primary Education in Zimbabwe. Thus, policies enacted before the identified inclusion period were not consulted as part of the data sources for the current research. All the materials selected were also mandated to be publicly accessible so as to assure transparency and reproducibility of the study process.

4. 8.4.2 List of policies reviewed during policy review

Table 4.2: List of policies reviewed during policy review

Name of document reviewed	Year published
The constitution of Zimbabwe	2013
Education Amendment Act	2019
The Education Sector Strategic Plan (ESSP) 2021-2025	2021
National Development Strategy 1 (NDS 1) 2021-2025	2021
Zimbabwe Early Learning Policy (ZELP)	2023
Zimbabwe national ICT Policy 2022-2027	2022
Vision 2030,	2018
Secretary Circular number 14 of 2004	2004
Statutory Instrument 106 Of 2005.	2005
Zimbabwe School Health Policy	2018
National Health Strategy (NHS) 2021 -2025,	2021
The National Disability Policy	2021

4.8.4.3. Collecting documents

All the documents used in this document review process were retrieved from the public domain. A folder was created where policies and regulations deemed appropriate were saved. A variety of policies, regulations and other government documents were analysed to check how they align with key areas of analysis. The documents, which were identified earlier as the key documents for analysis, were downloaded.

4.8.4.4. Articulating key areas of analysis

This part of the document review process focused on identifying the key areas of analysis. The areas of analysis were a review outline where the document review focus was unpacked. The key areas of analysis assisted as a search strategy stipulating the key search terms, which were used to retrieve the expected data from the policies. This helped in guiding what the researcher looked for in policy documents. These included policy aims, clauses to address marginalisation and digital divide issues, and promotion of online learning at the early childhood level. These key areas of analysis were used as part of the inclusion and exclusion criteria. Policies without these areas of analysis were not included.

4.8.4.5. Data generation and coding

Each document was analysed to determine the extent to which the policy addressed key areas of analysis which were policy aims, clauses addressing marginalisation issues, digital divide and promotion of online learning at early childhood level. Data was extracted from each policy and was recorded on a table which worked later on as a data extraction guide for analysis phase as shown in Appendix (E). Data from the policies were categorised into themes based on the extent to which the policy document is specific and in support of key areas of analysis. The generated data was coded manually.

4.8.4.6. Verification

To ensure consistency and reliability of the coding and assessment process, the analysis of every policy document was verified by a second person. The supervisor of this study was always available for any verification the study required, and her involvement ensured that robust interpretation, analysis, and conclusions were sound and accurate.

4.9. Data analysis and interpretation

In research, the analysis and interpretation of data are two critical phases in knowledge generation process. Generated data is transformed into meaningful insights through the two essential stages. It is only through data analysis and interpretation that conclusions are made, knowledge is expanded and new theories are created (Dawit, 2020). Without subjecting data to analysis, the generated data remains meaningless. Through analysis, data is organised, ensuring that useful information is extracted, which is needed to advance access to online learning in marginalised early childhood settings. The findings of the study are critically analysed to position the results within the study contexts.

4.9.1 Qualitative Document Analysis (QDA)

The generated data from the policies was analysed first to give the policy context for the study. The document analysis was guided by QDA (ILT 2013), which includes steps such as setting inclusion criteria for documents, collecting documents that can be online and in archives where applicable, articulating key areas of analysis, and exploring the policy documents guided by key areas of analysis. The generated data was coded and analysed to establish how they address the theme in the literature and the research questions. The research supervisor played a critical role in verifying the consistency in the process and trustworthiness of the coding and assessment.

4.9.2 Braun and Clarke's (2021) reflexive thematic content analysis

The data generated through semi-structured interviews and observations was analysed following Braun and Clarke's (2019) six-step thematic content analysis framework. This sequence helped in having a better understanding of the generated data. According to Braun and Clarke (2020) the six-phase method of analysis should be understood as a series of guidelines rather than laws that should be used loosely to match the data and research questions.

In social research, thematic content analysis is a frequently used technique for analysing qualitative data (Puppis, 2019). This method presents an organised and rigorous way to find and analyse themes and patterns in qualitative data (Kyngas, 2020), and it is especially pertinent for researching how online learning at the early childhood level in marginalised communities is accessed and supported. Braun and Clarke's thematic content analysis is a six-step procedure that includes becoming familiar with the data, creating preliminary codes, generating themes, reviewing potential themes, defining and naming themes, and producing the final report (Braun and Clarke, 2019).

4.9.2.1 Familiarising with data

In Braun and Clarke's thematic content analysis, familiarizing oneself with the data comes first. Byrne (2022) asserts that familiarisation includes reading and rereading the full dataset to become thoroughly acquainted with the data. This step is meant to help me become fully immersed in the data and understand both its context and content. To accomplish the goal of this phase, I listened to interview recordings, paying close attention to each one to comprehend the main topics covered in each interview, and then I manually transcribed the recordings. I repeatedly read the transcriptions to spot any early patterns in the data.

4.9.2.2 Development of initial codes

After becoming familiar with the data, the next critical step was to create initial codes, which is when the data was carefully evaluated to find valuable units of analysis. The

generation of the initial codes phase focused on the interpretation of individual data items in the data set. Codes are the labels or tags assigned to the data extract (Qureshi and Unlu, 2020). Codes might be words, phrases, or succinct explanations that summarise the data (Swain, 2018). According to Byrne (2022), codes are thought to indicate the researcher's perceptions of patterns of meaning prevalent throughout the dataset. All information that could be relevant to answering the study research questions should be coded (Linneberg and Korsgaard, 2019).

The focus of Braun and Clarke's (2020) model is on inductive coding, which refers to codes that are drawn directly from the data rather than being imposed based on pre-existing theoretical frameworks. For this reason, I created codes directly from the transcriptions to reflect a specific notion, idea, or theme. I went line by line through the data to create the initial codes, deliberately searching for any patterns, repetitions, or intriguing aspects of the information. This may entail underlining pertinent passages in the data. The initial coding stage can involve defining codes that indicate obstacles to access and adoption of online learning as well as codes that represent the experiences in the context of investigating access to and adoption of online learning in early childhood education in marginalised populations.

4.9.2.3 Generation of themes

The next phase of Braun and Clarke's thematic content analysis, which is the generation of themes, stresses the interpretation of meanings across the data set. This phase involves review and analysis of the coded data to determine how different codes might be merged based on related meanings to create themes. Whilst codes capture at least one observation, themes record numerous facets (Braun and Clarke, 2021). To generate the themes, I began by reading through the coded data to get a sense of the major patterns that emerged. I then identified the patterns in the coded data by identifying commonalities between them. I grouped similar codes together into broader categories or themes. I did this by grouping a list of codes based on their similarities. Codes sharing the same features or ideas were merged to create a theme. For example, the theme "digital competence deficit" was constructed from codes highlighting limited teacher, parent, and learner skills.

4.9.2.4 Reviewing themes

Reviewing potential themes is the fourth phase in Braun and Clarke's thematic content analysis model. This involves reviewing and evaluating the developed prospective themes in relation to the coded data and the whole data set. The review of potential themes is an iterative process that involves careful evaluation and refinement of the themes until they accurately reflect the data and provide insights into the research question or objective. I evaluated the usefulness and relevance of each theme for the research question or objective. The identified themes were also reviewed in relation to the existing research literature checking its consistency with previous findings and its potential to provide new insights. Questions such as, "Are the themes insightful and meaningful? Do they provide a deeper understanding of the data?" shaped the review process. I considered adding, deleting, or modifying themes to make them more accurate and meaningful. In case of multiple themes which are similar in meaning, I clustered them together to simplify the analysis and reduce redundancy. The relationships between the different themes and how they relate to each other was considered. All the overlaps or contradictions that need to be addressed were noted. During the review process, I ensured that all the themes are grounded in the data by checking evidence from the data. A theme which was found to have no sufficient support was either removed or modified. Lastly, I sought feedback from other researchers and colleagues to ensure the themes are well-developed, relevant, and meaningful.

4.9.2.5 Defining and renaming themes

The fifth phase of Braun and Clarke's model is the defining and naming of themes. During this phase, I reviewed the definition of each theme and ensured it accurately reflects the data. I then selected the data items to use as extracts when composing the analysis findings. This was followed by assigning names to themes that precisely depict their content. I chose descriptive titles that convey a significant aspect of each theme.

4.9.2.6 Report writing

The final stage is to write the report itself. The creation of the final report is the sixth and last stage in Braun and Clarke's six-step thematic content analysis. This entails combining the results and weaving a compelling story out of them. Using pertinent quotes or instances from the data, I logically and methodically presented the topics and their descriptions. With respect to the research topic or objective, the final report presented a thorough and perceptive interpretation of the qualitative data.

4.10 Trustworthiness of the study

Trustworthiness, according to Daniel (2019), is a crucial concept of qualitative studies (Lemon and Hayes, 2020). Trustworthiness is the extent to which other people can rely on the information generated and examined during the research (Lemon and Hayes, 2020). For the generated data and the conclusions derived to be accurate and reliable, trustworthiness must be established (Amin, Norgaard, Cavaco, Witry, Hillman, Cernasev and Desselle, 2020). Trustworthiness in research also refers to the rigor and applicability of the findings (Baillie, 2015). There are several ways through which trustworthiness in qualitative research can be achieved and these include credibility, transferability, dependability, and confirmability (Lincoln and Guba, 1985).

4.10.1 Credibility

According to Lincoln and Guba (1985), establishing credibility in research is the first step toward building trustworthiness. Credibility refers to how closely a claim is tied to reality, or how believable it is Stahl and King (2020). According to Kyngas, Kaariainen, and Elo (2020), one's level of confidence in the authenticity of the results is a measure of credibility. Establishing credibility is an essential element of research that demonstrates the impact of my work as a researcher. This involves presenting ample supporting evidence to ensure that the outcomes precisely depict what was studied.

Prolonged engagement is one of the most important factors that determines how credible a study is, according to. This implies that a researcher ought to be familiar with the culture of the research participants and the context surrounding the

phenomenon being investigated (Johnson, Adkins and Chauvin, 2020). To this end, I was on the research sites for a long period, engaging with the participants to generate data about access to online learning in marginalised early childhood settings, using semi-structured interviews and direct observations.

Member checks is another technique for checking the credibility of research results by asking participants to endorse the analysis that the researcher made as reflecting their intentions and meanings regarding the phenomenon under study (Singh, Benmamoun, Meyr and Arian (2021). With this approach, after analysing the data, I contacted the research participants again, and the study's data were shared with them. The correctness of the data was then verified with the use of participant comments. Member checks offer a chance to confirm that the data produced is compatible with the experiences and viewpoints of the participants (Johnson, Adkins and Chauvin, 2020). Apart from going back to the participants, I made my study accessible to other researchers and the public. I would be open in my study, disseminating my research results and conclusions through presentations at conferences and other open forums, as well as publication in respected academic journals.

A peer debriefing process is another criterion to guarantee the credibility of the study. In this process, the methodology, the study results, and conclusions are examined by peers who are knowledgeable about the phenomenon (Singh and Meyr, 2021). With this procedure in mind, I subjected my methodology, findings, and conclusions to my colleagues at work who have expertise in the field of research and to my supervisor, who is a research professor and has lots of knowledge in the topic under study. The peers and the supervisor looked at my work and identified any biases or mistakes that I have overlooked. This procedure aids in ensuring that the results are credible.

Nassaji (2020) claims that triangulation of the data enhances the credibility of the research findings. It is possible to lessen bias and improve the trustworthiness of the results by combining data from several sources. To attain this objective, data were generated using a range of techniques, such as interviews with semi-structured questions, direct observations, and content analysis of secondary sources. I made sure to triangulate the data, verifying it against various sources of data to assure its reliability and accuracy.

4.10.2 Dependability

Dependability is another criterion to consider when determining the trustworthiness of the study results (Lincoln and Guba, 1985). It is the degree to which one may trust a study's conclusions based on its consistency and accuracy (Rose and Johnson, 2020). It suggests that the results are trustworthy and verifiable (Kyngas, Kaariainen, and Elo, 2019). In other words, it expresses the extent to which the study's findings can be trusted or independently confirmed, irrespective of the researcher, the study's timing, or its location.

An audit trail could be used to establish dependability in qualitative research. According to Carcary (2020), an audit trail can be utilised to prove the dependability of qualitative research. The main goal of the audit trail is to make an in-depth record of all aspects of the study procedure, covering the choices regarding methodology and analysis of generated data. In order to help others comprehend how the study was carried out, as well as how I came to the results, this record should offer a rich source of supporting information for all significant stages of the research. My meticulous, impartial, and well-documented research methods guaranteed the truthfulness of this work. This is consistent with the argument made by Amin, Norgaard, Cavaco, Witry, Hillman, Cernasev, and Desselle (2020), who assert that maintaining meticulous records of research activities can improve the dependability of the results. I was meticulous in my research processes to strengthen the dependability of the study.

4.10.3 Transferability

Additionally, research transferability is another element of research trustworthiness, and it refers to the ability of research findings to be applied or transferred to other contexts or settings beyond the original study (Rose and Johnson, 2020). Daniel (2019) claims that through transferability, knowledge gained in one research situation might be used in other environments that are similar. It is significant because it allows for generalization of the research findings, which in turn contributes to the credibility and usefulness of the study.

Transferability is achieved using thick descriptions. Ospina, Esteve, and Lee (2018) argue that transferability can be accomplished using detailed and comprehensive descriptions of real-life scenarios and a thorough understanding of the perspectives and beliefs of the individuals involved. Stahl and King (2020) view transferability as feasible only when a thick description presents a sufficiently detailed depiction of the circumstances that allows for its adaptation to other contexts. Thick descriptions encompass various elements such as feelings, actions, voices, and meanings. In my doctoral research, I provided comprehensive and detailed accounts of my findings, along with their contextual backgrounds and interpretations. I included participants' direct quotes to support my analysis. Additionally, I gave a meticulous portrayal of the research context, methodology, participants' attributes, data production, and analysis techniques. By presenting this information clearly and concisely, I hope to help readers comprehend the process and application of my findings to other scenarios. Conclusively, transferability ensures trustworthiness of the study by allowing for the verification of research findings in other contexts or settings.

4.10.4 Confirmability

Confirmability is the last criterion of ensuring trustworthiness of research as given by Lincoln and Guba (1985). It speaks to the degree to which research findings are based on objective evidence and are free from the personal biases of the researcher (Stahl and King, 2020). From the lenses of Chung, Biddix and Park (2020) confirmability is the degree to which the analysis process is influenced by the researcher. To guarantee confirmability of my findings I made a detailed record of the research process, including the data generation process, analysis, and interpretation of results. To minimise my influence on data analysis, I followed Braun and Clarke (2019)'s six phase reflexive thematic content analysis model. This helped to increase the transparency of the research process and facilitate independent verification of the results. Confirmability is important because it helps to ensure that the results of a research study are reliable and trustworthy. This was achieved by minimising research bias by writing the researcher's own experiences and reflections. For this study, I included a section of research reflexivity and research positionality where I looked back at my own actions and how these influence my research process.

4.11. Ethical considerations

According to Cervantes, López, Rodríguez, Cervantes, Cervantes, and Ramos (2020), ethics is a subfield of philosophy that looks at people's moral nature. It is a set of ideas and concepts that govern what constitutes appropriate and inappropriate behaviour (Messer, 2024). It addresses moral evaluations of right and wrong as well as ethical behaviour. Research ethics is a set of guidelines that govern how scientific research is carried out (Davidson, 2020). This collection of guidelines is intended to ensure that studies are conducted responsibly and with regard for the rights and dignity of study participants. Ethical issues are crucial in research because they guarantee that investigations are conducted with respect and accountability. Nichol, Mwaka, and Luyckx (2021) contend that doing research rigorously and in compliance with ethical standards is crucial. Research ethics covers a wide variety of aspects, including informed consent, confidentiality, data protection, beneficence, and non-maleficence, according to Pietila, Nurmi, Halkoaho, and Kyngas (2020).

4.11.1 Informed consent

Informed content, in the opinion of Olivier (2020), denotes the provision of research participants with information regarding the objectives, potential dangers, and anticipated benefits of the study as well as a statement permitting them to withdraw their participation from the study at any moment. According to Barrow, Brannan, and Khandhar (2020), researchers should refrain from pressuring people to sign up for studies. After obtaining the ethical clearance from UNISA, I approached the participants and described the study's purpose and their role to obtain their informed consent. In this study, informed consent was obtained from early childhood development teachers and school heads. After signing an informed consent form, participants became the research subjects. This move reassures the participants that they are not coerced into taking part in the current study. Participation is optional and participants have the right to leave the study at any moment.

4.11.2 Confidentiality

Confidentiality is the other ethical concern for researchers. According to Fleming and Zegwaard (2018), researchers should refrain from using self-identifying statements and information and keep participant identities private and anonymous. The confidentiality of participant information is another attribute of an ethical study. The private information provided by research participants remained confidential and was never shared with a third party without the participants' consent. An explanation was given to the participants that the data they provided, including the recordings, were strictly treated as confidential and were only meant for research purposes. Audio recordings were made during the data generation phase. The study's research subjects were coded, and their responses were represented by these codes at the research presentation phase. This served as a reliable method of preserving privacy.

4.11.3 Beneficence

One of the moral principles governing scientific research is beneficence. It alludes to the benefit that the public receives because of the research. According to the beneficence principle, research harms must be kept to a minimum and reasonable (Ashley, 2020). For the beneficence component of ethical considerations, I planned and carried out the current study with the welfare of the participants as its main objective. Participants were made to understand that by contributing ideas and views, they also get an important insight into online learning, and their children in the end eventually benefit the most. Since almost everything has embraced technology, from commerce to education, failing to possess digital skills further marginalises people, especially those who already reside on the periphery of society. Participants in this study won't be wasting their time; instead, it marked the beginning of their emancipation in terms of embracing and utilising new technologies. Access and use of digital platforms proved to promote continuity of learning during crisis times. Additionally, all 21st-century citizens are required to be technologically literate, and an interrogation of online learning in disadvantaged communities would be a preliminary study that would help improve people's lives through ICT integration in such humble

settings. The study laid the groundwork for policy modification and intensification with regard to access to technology by learners living on the periphery of community life.

4.11.4 Non-maleficence

Finally, this research is also governed by the principle of non-maleficence, which emphasizes protecting research subjects from harm (McKenna, 2020). The ethical framework for this study was also framed by the non-maleficence principle, which places an emphasis on preventing harm to research participants. The subject's safety is the researcher's concern. The study's recommendations regarding the phenomenon put participant safety first. I assured my research participants that there are no likely risks of harm associated with the study and I took every effort and action to ensure that their rights are not violated.

4.12 Research reflexivity

Researchers bring biases and assumptions to the research process (Kimberley, 2021). There is a need to acknowledge one's prejudices and this internal gaze for one's biases is referred to as reflexivity. My background and assumptions influence interpretation by shaping what I see as significant, credible, or problematic. Reflexivity ensures that I interrogate these influences, documenting how they may bias analysis. Reflexivity is the awareness of one's role in the research process (Olmos-Vega, Stalmeijer, Varpio and Kahlke, 2023). It requires me to critically examine how my professional role, beliefs, and advocacy stance shape the framing of questions, interpretation of responses, and emphasis in findings. For example, recognising that my belief in digital inclusion could predispose me to highlight positive outcomes more strongly than negative ones. This awareness enables the researcher to identify the ways in which both the research processes and results are influenced by him or her. Reflexivity, in the opinion of Ricker (2017), is knowledge of the impact that our epistemologies, or the lenses through which we perceive the world, have on the questions we pose and the analysis we carry out in research. It is suggested by Holmes (2020) that adopting a reflexive perspective when conducting research enables the researcher to recognise, assess, and articulate their positionality.

Reflexivity is a key aspect of qualitative research and I included it in my chapter that discusses research methodology. Reflexivity allows me as a researcher to critically examine my own biases and assumptions and shows how these may influence the research findings. By being reflexive, I managed to identify any power dynamics at play in the research process and how these may influence the research findings. Through reflexivity, I also demonstrated my commitment to ethical and responsible research practices. By having a reflexive stance, I highlighted my awareness of the research limitations. Including a reflexivity section in chapter four shows that a critical and self-reflective approach to the research was taken. I believe that by having a reflexivity stance, my credibility and trustworthiness with the research participants and the wider academic community are guaranteed. This is because I showed my commitment to transparency and openness in the research process. I used reflexivity as an opportunity to reflect on my own positionality and how it might impact the current research study.

My reflexivity statement therefore reads:

In conducting this study, I was acutely aware that my background as a lecturer shaped both the framing on the research questions and interpretation of participants' narratives. My long-standing advocacy for online learning in marginalised ECD settings predisposed me to view online learning as a positive and necessary intervention. This assumption risked privileging accounts that are aligned with my beliefs while potentially undermining participants' concerns about infrastructural limitations. To mitigate this, I continuously maintained a reflexive journal to critically analyse how my identity and beliefs interacted with the data. I also used strategies such as triangulation and peer debriefing to ensure that my interpretations were not simply reflections of my own perspectives but were grounded in participants' lived realities.

Apart from being reflexive on one's beliefs and biases to ensure the rigour of the research study, it is also critical to be reflexive about the challenges of researching the rural context and to prepare myself for the hurdles ahead.

4.13 Researcher positionality

The reflexive stance I took helped me to identify my own biases and assumptions, the power dynamics at play in the rural context I studied, and the challenges of studying such a context. The next step was to declare ways of reducing the impact of the identified hurdles. This is referred to as research positionality. Positionality involves acknowledging how my identity for example being an academic and being digitally literate interacts with participants' identities that includes being in the margins of community living and in resource-constrained settings. This awareness helps me to mitigate power imbalances and ensure participants' voices are authentically represented. Positionality is a continuous method of introspection regarding researchers' beliefs and their own intentions in the research process (Secules, McCall, Mejia, Beebe, Masters, Sánchez-Peña, and Svyantek, 2021). The goal of research positionality is to comprehend the researcher's role in the study processes and how this impacts the study design, data generation, analysis, and interpretation (Braun and Clarke, 2019). According to Smith, Blevins, Werse and Talbert (2020), a researcher's positionality influences how he or she can interpret and perceive both their own research work and that of others. Positionality ensures that I situate myself transparently within the research, clarifying how my role and assumptions interact with participants' realities.

In my positionality statement, I provided a broader context of my personal background, professional roles, advocacy stance and beliefs about online learning that shaped interactions, interpretations or power dynamics with participants. This was significant because it allows me to look for ways to address such biases before they affect the research process. By disclosing my positionality, I validated my role in the research process, increasing the research's credibility. The need for positionality forced me to be reflexive, to take into accounts my own values and beliefs and how they could influence the research process. I discussed power dynamics in my positionality statement, such as my relationship to the study participants and the research field. This is essential for addressing power dynamics before they derail the research process.

Based on the preceding discussion I declare my positionality as:

My positionality as an academic researcher from higher and tertiary institution inevitably influenced how I was perceived in rural marginalised ECD contexts. Participants often viewed me as an authority figure, which could shape their responses to align with what they believed I valued. I dealt with this issue by adopting a participatory stance, emphasising that the expertise resided in participants' lived experiences rather than in my academic position. I worked deliberately to build trust and rapport, clarifying that the study aimed to amplify their voices rather than impose external solutions. This positional awareness combined with reflexive practice ensured that the study remained ethically grounded and that participants' perspectives were represented with integrity.

4.14 Challenges of researching rural context

Researching rural contexts presents unique challenges that researchers must navigate to obtain valid and reliable data. One of the main challenges is the lack of infrastructure in rural areas, which can make it difficult to conduct research (Wu, Li and Liu, 2022). Poor road systems, restricted access to transportation, unstable electricity, and poor internet connectivity can all be found in rural locations. These difficulties could impact on participant selection, restricting the volume of data which can be gathered and make it hard to execute interviews, and surveys. To reduce the impact of this challenge I partnered with local service providers to gain access to resources. The adoption of convenience sampling of sites also helps to mitigate access issues to rural areas with poor road networks. I visited sites where I knew I could have access easily.

Another challenge in researching rural contexts is the diversity of rural communities (Twikirize and Spitzer, 2022). Olmedo (2021) asserts that cultural norms can vary substantially among rural areas. This suggests that rural places might have distinctive cultural differences that I may not have been aware of, which may affect the results of my research. As a researcher, I must be aware of these variations and try to adapt my research techniques and research questions to the particular setting I am researching. Failing to do so may provide incorrect data and cause errors in how the results are interpreted. I must also be aware of power dynamics within rural

communities, and work to build trust and rapport with community members to ensure their voices are heard and their perspectives are accurately represented.

A third challenge in researching rural contexts is that rural areas may have distinct dialects or languages different from those of the researchers. According to Moss, Ulug and Acar, (2019) rural areas often have diverse linguistic landscapes, with different dialects, languages, and communication styles used by local communities which may be different from that of the researcher. This limits researchers' ability to generate data from rural communities (Munyoro, 2018). Local residents may use a language or dialect that the researcher may not be familiar with, making it difficult to communicate, understand and generate data from such participants. This may limit the scope of the research. If faced with language related barriers I allocated sufficient time and resources for language-related tasks, such as hiring bilingual research assistants or obtaining professional translation services.

Language differences can create barriers to establishing rapport with participants (Tenzer, Pudelko and Zellmer-Bruhn, 2021) as effective communication is a key factor in building trust. Researchers who do not speak the local language may struggle to establish meaningful connections with rural communities, and may encounter difficulties in recruiting participants or obtaining informed consent. To mitigate this problem, I worked with locals who understand English as assistants in helping me establishing rapport with participants.

Analysing data from rural contexts with language differences can be complex. Researchers may face challenges in transcribing, translating, and analysing data generated in languages or dialects that they are not proficient in (Gordon, 2019). This may result in inaccuracies, loss of nuance, or misinterpretation of data, leading to potential biases or misrepresentations in research findings. To reduce the impact of language barriers in data analysis I collaborated with local translators who are familiar with the local language and culture to assist with data generation, translation, and interpretation.

4.15. Conclusion

In this chapter, the research method and its components were discussed in detail. Two (2) paradigms, the interpretive and critical paradigms, were used to inform the study

processes. The interpretivist paradigm emphasises the importance of understanding social phenomena from the perspective of the individuals who experience it, while the critical paradigm underscores the power dynamics inherent in community living. These two philosophical orientations were used for exploring access to and adoption of online learning at early childhood settings situated in marginalised communities. This worldview enables research participants to be agents of aspects that confront their livelihoods. The qualitative research approach was used in this study, and it allows for a detailed exploration of the research questions through the production and analysis of non-numeric data. Thus, a qualitative study design cherishes participants as experts in relation to the phenomenon in question. The multi-sited case study design was used and was suitable for this study as it allowed the exploration of the research questions in different settings, which provided a more thorough understanding of the study's problem. The study was conducted in Buhera District of Manicaland Province in Zimbabwe with twelve (12) early childhood development teachers and six (6) school heads. Purposive and convenience sampling were applied to select participants who were relevant to the research questions and had the necessary information to contribute to the research objectives. Semi-structured face-to-face interviews were used to generate data, along with observation. Semi-structured interviews provided an opportunity to gather detailed responses and follow-up questions, while observation provides an opportunity to capture nonverbal behaviours and actions. This was essential for generating data that is rich in meaning and depth. Braun and Clarke (2021)'s reflexive thematic analysis was used as data analysis tool and was suitable for this study because it made it possible to recognize trends and themes that arise from the data produced. Ethical considerations guiding the study were presented and discussed fully. The research study considered informed consent, confidentiality, beneficence, and non-maleficence as the ethical principles that need to be respected during all phases of the research process. The possibility of participants having limited knowledge of the research problem, a small sample, as well as financial constraints, is the identified limitation of this study. The next chapter five (5) focuses on the research findings and the discussion thereof.

CHAPTER 5

Findings and discussion chapter 1

Policy driven pathways to online learning access and the empowerment of the margins

5.1. Introduction

The previous chapter explored the methodology of the study. This chapter focuses on presenting, interpreting and discussing data generated through semi-structured interviews and qualitative document analysis. As the world embraces emerging technologies, a new form of marginalisation is emerging in the form of digital marginalisation. There are situations where classroom-based learning is interrupted, as seen during the COVID-19 pandemic. In such a crisis period, online learning is significant for promoting the continuity of learning. For this to happen, there is a need for a policy foundation to cement the online learning agenda in schools. There is therefore a pressing need to understand how existing policies support the implementation of online learning and remove barriers to its adoption. This chapter critically explored the alignment of existing policies with the online learning agenda and ways of empowering the marginalised ECD learners. Specifically, it answers the question, *“What policies exist to address the issue of marginalisation and access to online learning for learners in underserved communities?”* The data was generated through interviews with school heads and teachers as well as analysis of the policy documents. The dual approach paved a fertile ground for unpacking the policy landscape guiding access and support for digital learning. The chapter provides insights on how the online learning initiatives can be expanded to underserved communities by using policies as the foundational frameworks.

Data for this chapter was generated through qualitative document review and semi-structured interviews where an audio recorder was used to capture the participants and my interactions. Data was gathered on existing policies aimed at reducing marginalisation in general and digital marginalisation in particular. Data from policy documents was extracted using key areas of analysis and was analysed following the

qualitative document analysis (QDA) model (ILT 2013). Data from interviews was transcribed by listening to the responses that participants provided and writing them down. An appendix was included to provide evidence of transcribed data. The transcribed data were then subjected to rigorous analysis following Braun and Clarke's (2021) reflexive thematic analysis model. All six steps of data analysis, according to Braun and Clarke, as outlined in the methodology section, were followed until themes were developed. Codes were generated manually. This assisted in producing rich data regarding existing policies for addressing the issue of marginalisation and access to online learning for young learners.

5.2. Presentation of findings:

Historical policy context and the marginalisation of rural communities

Participants were requested to share their understanding of the existing colonial policies and practices that they think contributed to the marginalisation of rural communities. It emerged from the participant voice that several colonial policies exist that led to the marginalisation of rural communities. This includes the language policy, the urban-rural bias, and privilege for the rich and bookish curriculum. The colonial era practices and policies laid a foundation for the existing digital divide in underserved communities.

5.2.1 Language and indigenous knowledge system neglect

Language and indigenous knowledge system neglect emerged as one of the factors that contributed to marginalisation of rural communities. Participants' voices are presented below:

SH 1: In terms of language and indigenous knowledge system neglect, colonial masters imposed a language policy that eroded local languages and cultures and local children were forced to learn using foreign languages.

SH 2: One notable impact of colonialism on the indigenous people was the imposition of a foreign language through the curriculum, which not only brought

in a new language of instruction but also deviated significantly from local cultures. This forced the indigenous people to lose their cultural identity and use the English language to learn, and this poses a challenge to learners who would struggle to understand concepts taught using a language that is not their first language.

SH 3: According to my understanding of colonial language policy, the local people were required to use English as both a medium of communication and learning. This came with challenges, especially for children who were expected to learn in a language different from their mother tongue. The emergence of digital learning with digital content in a language that is foreign to young children would further push learners away from becoming achievers in the education system.

The responses from teachers were similar to that of school heads. The following excerpts represent teachers' perspectives:

TR 1: Colonial policies, especially for the education sector, set English language as the medium of instruction in schools without considering the challenges this may bring, especially to the young children who were not familiar with this mode of instruction.

TR 11: In my view, the curriculum that was imposed by colonial educational systems was often Eurocentric and did not consider the rich cultural heritage of indigenous people. This can be perpetuated in an online learning environment where online learning content may not reflect the experiences of the local people.

The responses of both school heads and teachers revealed that colonial policies and practices were not in support of local languages and indigenous knowledge systems. Over time this had adverse effects on the educational outcomes of learners whose mother language is not the same as the induced colonial language. The colonial neglect of local languages is still the norm in most modern ECD settings. English is often the most favoured medium of instruction, especially in urban settings and this perpetuates the colonial legacy. In most rural schools, the language policy on the use of mother language in ECD Classes is relegated and perceived as inferior

5.2.1.2 Urban –rural bias

Based on the earlier finding of this study, urban-rural bias surfaced as one of the colonial policy thrusts that was meant to ensure that urban centres benefit from any technological innovation that emerges, leaving remote rural areas behind, participants were asked to share online learning related challenges that rural ECD settings face today that they believe stem from historical neglect and urban-centred developments during colonial era. The findings reveal that the historical neglect of remote rural areas and the concentration of technological developments in urban areas led rural areas to lag behind regarding technological and scientific advancements. The rural ECD settings continue to endure a persistent lack of digital infrastructure and digital skills as a result of policies that prioritise urban development and systematically neglect the rural communities. The findings were drawn from excerpts presented below:

SH 1: During the colonial era the urban bias manifested in priorities given to urban development leaving rural communities undeveloped

SH 2: In my view, colonial policies and practices set two social zones which were treated differently by the colonial government. The urban zone had all the government support it needed to move its technological development forward, while no one cared about the rural development. This unjust treatment of rural communities accounts for their technological marginalisation which continued to affect them even in the post- independent Zimbabwe.

Teachers confirmed the perspectives of the school heads as seen in the excerpts below:

TR 1: I think that the developmental policies of the colonial times prioritised urban developments and could not do much for rural development. The roots of urban bias are still fresh since offshoots of this kind of bias are seen in our communities today and stand as the foundation for today's limited access to digital resources for marginalised communities.

TR 9: The rural schools struggle to access technological resources. The colonial government-built infrastructure for urban schools and the pattern hasn't improved much.

TR 12: Historical resource allocation policies favoured urban and privileged areas, resulting in inadequate infrastructure and technology in marginalised communities, impacting their current access to online learning.

The findings highlight some level of rural technological neglect of the rural communities since more developmental support were channelled to urban technological development. The participant's contribution suggests the existence of a digital learning poverty, which is adding to the disadvantage of marginalised people. In this case, poverty is taken as something that is socially created. The more some groups of world populations experience limited access to resources, the more form of poverty is created. This historic disparity in resource distribution between rural and urban areas is not just a relic of the past, but a trend that continues in present-day societies. A continuation of infrastructure neglect in modern societies shows how those in power may sustain disadvantage for people in rural areas.

5.2.1.3 Privilege for the rich

Participants were asked to share how economic privilege in access to colonial education is reflected in today's access to online learning in early childhood settings. Participants' responses suggested that colonial policies and practices laid the basis for limited access to digital learning for learners in marginalised early childhood settings by privileging the rich. This trend is persistent in today's online learning education. The following articulations from the participants shed light on the colonial practices and policies that created lingering disadvantages that continue to impact underserved communities today.

SH 1: Colonial-era policies and practices often limit access to quality education for remote rural areas, making education accessible to the rich children only and this disparity persists even today, and has a bearing on the extent to which marginalised communities access online learning.

SH 5: Preschool education was a privilege for learners from rich families, and online learning is following the same trend; those from rich families can afford the internet and devices for online learning and those in poor families won't afford this.

Not only did management perspectives indicate that colonial policies and practices favoured solely learners from rich families but this was also the view of teachers:

TR 1: *During the colonial era, only learners from wealthy families had access to early learning opportunities. In contemporary times, online learning is following the same trajectory as it is accessed only by those with money who can afford data and devices.*

TR 9: *During colonial times, children from rich families could have access to books and other resources for learning. In the current digital era, such learners have access to smartphones and the internet, while those from poor families struggle to adopt online learning modalities, creating a new privilege for the rich.*

The findings reflect how colonial masters made access to quality education a reserved opportunity for their children, neglecting the plight of African children. This time around, the privilege is in the form of online learning. Online learning demands resources that are available in resource-rich communities, such as the availability of internet, electricity, and digital resources such as computers. It is easy for learners in such environments to shift to digital learning as compared to their peers in underserved areas.

5.3. Zimbabwe policy frameworks on access to online learning and addressing of marginalisation

Participants' awareness of policies covering access to digital learning and marginalisation are presented below:

5.3.1 Participant awareness of policies addressing online learning

Participants were asked to share existing policies that seek to address access and support to online learning issues. Samples of participants' articulations are presented below:

SH 1: *I am not aware of the policies specifically focusing on improving access to online learning for ECD learners in underserved communities. Currently, there are general education policies, but few specifically address digital access for ECD learners. More targeted frameworks are needed.*

SH 2: *In my understanding, policies are yet to be developed to promote access and support for online learning for learners in marginalised communities*

SH 3: *I am not aware of policies specifically formulated to address access to online learning concerns, however, the 2019 Education Act as amended has a clause that potentially promote the use of emerging technologies in education*

TR 3: *Insofar as I am concerned, there are no policies focusing on promoting online learning for young learners in marginalised communities.*

TR 9: *There are no existing specific policies on online learning for learners in early childhood settings.*

DO 1: *From the management perspective, very few policies exist to tackle the issues at hand*

The generated data reveals a significant gap in policy awareness for both the school heads and the teachers. This gap signifies the non-existence of policies or a failure to engage the grassroots actors with policy frameworks, and this could be a source of failures in policy implementation. School head (SH 3) referenced the 2019 Education Act as amended as potentially having clauses that promote the use of emerging technologies in education, highlighting the possibility that even the existing policies are not accessible to the relevant stakeholders like school heads and has an impact on online learning adoption in early years learning.

5.3.2 Participant awareness of policies addressing marginalisation

Participants were asked to share any initiatives or policies that have been implemented to address or mitigate marginalisation. Several policies emerged from the participants, which are presented below:

5.3.2.1 School access

The study participants (SH 1 and SH 2), teachers (TR 9, and TR 12) and (DO 1 and DO 2) identified policies that exist to address educational marginalisation. The data reveal that the 2013 Constitution of Zimbabwe, with its clauses on school feeding programme and Free and Compulsory Education, as well as the Basic Education

Assistance Module (BEAM), and the No Child Left Behind Policy, play a critical role in mitigating the impact of marginalisation on learners from underserved communities. Participants' articulations are presented below:

SH 1: Policies exist that seek to address school-related marginalisation. These include the Basic Education Assistant Module (2001), Free and Compulsory Education (2013) as well as the Education Act of 2020 as amended.

SH 2: In my view, the government of Zimbabwe has policies that focus on ensuring access to education for learners from poor families, such as the feeding programme and BEAM initiatives. The Education Act (2020), as amended, protects learners from poor families from being excluded from school due to non-payment of fees.

TR 1: To fight educational marginalisation, the Education Act (2020), as amended, has clauses that prohibit exclusion of learners from school due to non-payment of fees or due to pregnancy.

DO 1: The 2013 Constitution of Zimbabwe recognises access to education as every child's right and stipulates in several clauses how this right can be attained.

5.3.2.2 Gender equity

Participants identified policies that seek to address gender equity issues in education. For instance, the 2013 Constitution of Zimbabwe emerges as one of the policy documents that provide specific rights to girls and women. Participants also identified the 2020 Education Act, as amended, as having clauses that provide for gender equity. Clause 68B of the Education Act affirms the right of every child to education regardless of the child's gender. One participant (SH: 5) recognises the National Development Strategy (NGS1) (2021-2025) as having sections that prioritise women's empowerment in education. The School Health Policy (2018) from the lenses of SH 3 and TR 10 promotes inclusive health practices that address gender specific needs. The policy targets adolescent girls for sexual and reproductive health education. Below are sample excerpts shared by participants:

SH 2: *I am aware of several policies that try to address gender equity issues, for example, the 2013 Constitution of Zimbabwe and the 2020 Education Act, as amended, have clauses calling for gender sensitivity in the educational system.*

SH 5: *If not mistaken, the National Development Strategy (NDS1) (2021-2025) has a section that advocates for women's empowerment in education.*

TR 10: *In my opinion, the School Health Policy (2018) advocates for being sensitive in providing gender related education to learners. This policy targets health education for the girl child.*

5.3.2.3 Health access

The findings revealed that as a nation, Zimbabwe has policies that focus on improving the health outcomes of everyone in the country. From the perspectives of both school heads and ECD teachers, the country has policies that ensure that there is improved access to health facilities for all people, regardless of their geographical location. The following policies were identified by the participants: the Zimbabwe School Health Policy (2018), the National Health Strategy (NHS) 2021 -2025, the Public Health Act, and the Health Service Act. These policies aim to improve health and wellness for all Zimbabweans by ensuring universal access to quality health services. The Statutory Instrument 106 of 2005 addresses the nutritional needs of learners. It promoted the school feeding programme.

5.3.2.4 Disability inclusion

The findings show that policies do exist to promote access to resources and improve the livelihoods of persons with disabilities. The National Disability Policy (2021), Disabled Persons Act (1992), and the 2013 Constitution of Zimbabwe were identified as policy frameworks aimed at improving access to facilities for people living with disabilities (SH 3, SH 6), (DO 1) and TR 5, TR 11). The National Disability Policy (2021) aims to guide stakeholders on how to formulate policies and intervention strategies that protect and respect the rights of persons with disabilities. The provisions of disability in these policies demonstrate the government of Zimbabwe's commitment towards protecting the rights of persons with disabilities

5.4 Policy effectiveness in addressing marginalisation and online learning concerns

Participants were asked to give an evaluation of the existing policies regarding their effectiveness in promoting the unique needs and challenges faced in marginalised communities, including access to online learning. The findings are presented below:

5.4.1 Effectiveness of online learning policies

Both school heads and teachers reiterated that robust policy frameworks coupled with adequate financial support could promote online learning for marginalised learners in early childhood settings. The following are opinions shared:

SH 1: *In my opinion, the existing policies are not effectively addressing the digital divide which is a significant prerequisite for accessing digital learning. The existing policies suffer from shortages of funds and are not specific to the online learning realities on the ground.*

SH 2: *In my opinion, the nation has no policies specifically tailored to ECD online learning; hence, the effectiveness of non-existing policies is difficult to measure.*

TR 1: *Not fully. Many areas still lack electricity, internet, and trained staff.*

TR 3: *Our nation has no specific policies for online learning for learners in marginalised communities. Before commenting on the effectiveness of such policies, there is a need to develop them first.*

TR 7: *There is nothing to comment on the online learning policies, which are not available.*

5.4.2 Effectiveness of school equity policies

Participants revealed that although policies exist to deal with school marginalisation, such as the 2013 Constitution of Zimbabwe, the 2020 Education Act as amended, achieving a community without some forms of school marginalisation is difficult to

attain. According to SH 1, the existing policies are not effectively addressing the digital divide which is a significant pre-requisite for accessing digital learning. The existing policies suffer from shortages of funds and are not specific to the online learning realities on the ground. The Constitution of Zimbabwe provides strong guarantees to learners in poor families; however, it lacks clarity on how rights are to be implemented, particularly in marginalised communities. There are no binding timelines or mechanisms to ensure progressive realisation of the policy focus. The Free and Compulsory Education policy, which reaffirms the constitutional right to education, strives to eliminate financial barriers to learners; however, on the ground, many schools still charge fees and exclude those learners who fail to meet the school's fee requirements. There are no specific funding mechanisms to support implementation.

The Education Act as amended (2020), as well as the Constitution of Zimbabwe (2013), mandate free and compulsory basic education; however, due to a lack of budgetary commitment, free education remains a fallacy in Zimbabwe. Participants, particularly SH 4 note that policies aimed at addressing the nutritional needs of young children, such as the School Health Policy and the School feeding programme, are not effective in addressing the gap they were formulated for because of a lack of funds. The government often provides only maize to support the school feeding programme, with the communities expected to provide relish and other cooking supplies, which is unsustainable in marginalised communities. With regard to the Basic Education Assistance Module (BEAM), the selection criteria are often inconsistently applied, leading to the exclusion of eligible learners. According to TR 2, most ECD learners are not included in the list of BEAM beneficiaries. Additionally, the disbursement of BEAM funds is normally delayed, disrupting the smooth running of the schools. As noted by TR 11, BEAM funds are not enough to cater to all vulnerable learners at a particular school. In most cases, learners need deserve to benefit from this model are left out.

5.4.3 Effectiveness of gender equity policies

The data from participants underscores a critical gap in gender policies that consistently advocate for the rights of the girl child, leaving the boy child behind. According to SH 4, the girl child is deemed marginalised in terms of access to essential life amenities; however, the interventions the world is giving to close this gap are

opening a new gap. The boy child is now facing serious exclusion in the education system. For this reason, gender equity policies are not effective in achieving inclusive gender equity among boys and girls. SH 6 in her sharing argues that although the nation has a recent policy on gender equity (National Gender Policy, 2025), it is still too early to determine its effectiveness. She further argues that the National Gender Policy lacks clear indicators for measuring gender equity in ECD access. Although policies support access to education for girls, there are no explicit provisions for digital learning access for girls in marginalised communities where stereotypes exist regarding technological education for the girl child.

5.4.4 Effectiveness of health access policies

The study findings recognise the broad health guarantees that the Constitution of Zimbabwe, the National Health Strategy (2021-2025), and the School Health Policy (2018) made; however, as shared by SH 5, these policies lack specific implementation mechanics, particularly for young learners in marginalised ECD settings. Although the National Health Strategy (2021-2025) focuses on universal health coverage, its implementation is constrained by resource shortages as medicines and health workforce density remain critically low. These policies, as evident from TR10's perspectives, have no clauses that reflect binding obligations for budgetary allocations. These limitations dilute the strength of health access policies in fighting health marginalised for very young children.

5.4.4 Effectiveness of disability inclusion policies

Participants reiterated that despite the existence of clauses on disability inclusion on several policies, there is a lack of specific enforcement mechanisms and budgetary options to operationalise the inclusion mantra as reflected in the excerpt below:

SH 2: In my opinion, policies on disability inclusion do exist, however, they lack strategies for implementation.

Similarly, SH 1 stresses that policies on disability, such as the Disabled Persons Act of 1992, are outdated and do not address early childhood inclusive education frameworks. Policies such as the National Disability Policy (2021), although current

and aligned with the SDGs, its implementation remains weak due to limited funding, especially in remote rural areas (SH 6, TR3).

Generally, the study results highlight the grey areas that Zimbabwe as a nation needs to look at to ensure sustainability of both online learning and marginalisation policy initiatives.

5.5 Policy support for online learning and marginalisation reduction: Insights from reviewed policies

Apart from relying on data from interviews, data was also collected from existing policies to triangulate data from multiple sources. As noted previously in chapter four, (4) the study followed the QDA (ILT 2013) as the lens to guide document reviews.

5.5.1 Gender equity in Zimbabwean policy frameworks

Gender equity was one of the key areas of analysis during document review. Several policies explicitly promote gender equity. From the lens of Vision 2030, gender equity is essential to national transformation. The nation has central policies targeting gender equity, which are the Gender Mainstreaming policy of 2025 and the national GBV strategy (2023-2030). These policies establish institutional accountability mechanisms for gender equity, with women and girls as the beneficiaries. Chapter 17 of the Constitution of Zimbabwe mandates gender balance in all spheres of society, while section 56 of the same document guarantees equality and non-discrimination, which is based on gender. Below is another excerpt from Clause 4A of the 2020 Education Act, as amended, that prohibits the expulsion of pregnant girls in schools. This reflects the commitment of the government to reinforcing gender equity in school retention. Clause 68 A of the 2020 Education Act also affirms the right of every child to education regardless of the child's gender. The Zimbabwe Early Learning Policy (2023) prioritizes the girl child's access to early learning opportunities, particularly those from rural and marginalised communities. The National Development Strategy (NDS1) has sections that encourage gender –responsive planning in all sectors of the government. The School Health Policy (2018) targets adolescent girls, offering them sexual and reproductive health education.

5.5.2 Disability inclusion in Zimbabwean policy frameworks

Several policies have provisions for the inclusion of persons with disability in all areas of human survival. It was good to note that Zimbabwe has a dedicated policy with disability focus, which is the national disability policy. The policy advocates for accessible ICTs, inclusive infrastructure and assistive devices. The policy quotes: *Persons with disabilities must have access to new information and communication technologies and systems including the internet at affordable prices.* The policy calls for representation of disabled persons in policy making. The Constitution of Zimbabwe (2013), in its section 22, mandates the state to take measures to ensure that disabled persons achieve full dignity and participation in society. Section 83 of the Constitution guarantees the rights of persons with disabilities to educational and health access. The constitution further prohibits discrimination based on disability. Similarly, Clause 68B of the Education Act, as amended (2020), affirms the right of every child to education regardless of disability. The clause reads:

“Every registered school shall provide infrastructure, subject to the availability of resources, suitable for use by pupils with disabilities”.

This was also confirmed in the Zimbabwe Early Learning Policy (2024), which prioritises disabled children in early childhood education. In the national GBV Strategy (2023-2030), disabled women and girls were recognised as vulnerable to gender-based violence and needed inclusive protection mechanisms. Lastly, the School Health policy promotes inclusive health practices, although disability is not addressed in detail.

5.5.3 Educational access and poverty eradication in Zimbabwean policy frameworks

Educational access and eradication of poverty were one of the key areas of analysis during the policy review process. The reviewed data highlights the existence of policies that promote access to education and seek to address the enduring poverty in marginalised communities. Clause **68 A** of the Constitution of Zimbabwe guarantees the right to education for all, while Section 27 mandates the promotion of free and

compulsory education. Sections 13 and 28 of the Constitution emphasise equitable development and access to basic necessities, particularly for vulnerable groups. The Education Act (2020), as amended, affirms every child's right to education regardless of status. It prohibits the exclusion of learners from school for non-payment of fees or the expulsion of girls who become pregnant at school. This is located in section 68C of the Education Act as amended which reads:

“No pupils shall be excluded from the school for non-payment of school fees or on the basis of pregnancy”.

The Basic Education Assistance Module (BEAM) emerges from the document review as one of the initiatives that targets the eradication of poverty by providing school fees and examination fees for primary and secondary learners in poverty. It directly combats educational exclusion due to poverty and acts as a social protection mechanism for low-income families. However, in most cases, learners in ECD are often excluded from this initiative. The School Health Policy (2018) addresses health-related marginalisation to education by advocating for free health services in schools. To cater for malnutrition in schools, Statutory Instrument 106 of 2005 provides for free school meals reducing household burden: *Statutory instrument 106 of 2005 article 10 (3) stipulates that ECD centres should have planned feeding schemes*. The issue of free access to education, whether in the form of meals, health services, or access to educational resources, is collectively embedded in the Free and Compulsory Education policy. This initiative, although not fully implemented, is the government's commitment to reducing economic exclusion by reducing cost barriers to education. The issue of dealing with cost barriers emerges from the Education Act as amended, as evident in the clause which stipulates that the state commits itself to providing sanitary ware to girls in all schools.

5.5.4 Health Access in Zimbabwean policy frameworks

One notable finding from the policy review was the appreciation of existing policies that seek to guarantee the safety, health and hygiene of all the children in the country (Zimbabwe Early Learning Policy (ZELP) (2023). The School Health Policy (2018) recognises malnutrition and stunting concerns as impacting young learners in marginalised early learning settings. To close this gap, the School Health Policy (2018)

stresses the need to have school-based health and nutrition services. Policies such as the Statutory Instrument 106 of 2005 and the Education Sector Strategic Plan (ESSP) (2021-2025) have similar clauses those that seek to close the nutrition gaps within the ECD learners. These policies seek to ensure that early childhood learners are in a physical and mental health state that facilitates the attainment of good educational outcomes. The document also reveals data that highlights implementation challenges of the health and nutrition policies. For instance, the Zimbabwe Early Learning Policy (2023) notes lack of sustainability regarding the feeding programme in schools. It then advocates for a community-based, cost-effective feeding programme at the infant level. The cost-effective modalities are critical for the sustainability of the programme.

5.5.5 Access to online learning in Zimbabwean policy frameworks

A few of the reviewed policy documents have clauses supporting access to online learning for learners in marginalised ECD contexts. In the 2013 Constitution of Zimbabwe, there is no explicit mention of online learning. The Education Act (2020), as amended, inserts the clause “*the act promotes the use of emerging technologies in education.*” The act failed to clearly define issues of affordability and accessibility, as well as to give mandates for infrastructure and teacher training. The Zimbabwe Early Learning Policy (2014) promotes low-tech digital tools such as the use of radio or flash drives during emergent learning. It presents no formal strategy for digital infrastructure or teacher training. The 2021 National Disability Policy advocates for improved access to ICTs, assistive technologies, and inclusive infrastructure for persons with disabilities. However, the implementation mechanisms for ECD-specific online learning access are limited. Similarly, the National Development Strategy (NDS1) frames ICTs as cross-cutting enablers of development. It, however, lacks an implementation plan for online learning. Data from document review further highlights the need for digital transformation and expansion of broadband (Vision 2030). The 2021-2025 Education Sector Strategic Plan (ESSP) also mandates ICT integration in schools and rural connectivity. However, ECD online learning access is not deeply defined. Device provisions and affordability measures were not provided for. Thus, most policies in Zimbabwe lack enforceable standards for online learning access, affordability and teacher training. All the other policy frameworks reviewed, such as

the School Health Policy (2018), Statutory Instrument 106 of 2005, BEAM, and the Constitution of Zimbabwe, have no explicit online learning support clauses.

5.6 Discussion of findings

The purpose of this chapter was to present, analyse and interpret data generated to answer the research question: *What policies exist to address the issue of marginalisation and access to online learning for learners in underserved communities?* Data was generated with participants as well as through document analysis.

The study findings reveal that colonial policies and practices laid the foundation for the marginalisation of rural areas. This was through the imposition of English as the medium of instruction in schools, urban-rural bias, a form of colonial practice that concentrated technological developments in urban areas, neglecting the rural communities, and taking pre-school education as a reserve for the rich. The imposition of English as the avenue for learning during colonial times is seen as a major barrier to learners' cultural identity and comprehension of taught concepts. These findings are critical to this study, as they assist in drawing a direct line between the colonial neglect of rural areas and the current digital exclusion of such communities. In light of these insights, the colonial era policies and practices need to be decolonised from early childhood education. The post-colonial education practices were put in the spotlight for failing to adequately resolve the colonial inequalities and continue to pave the way for the reproduction of such practices.

The study establishes that several policies were developed to address marginalisation of access to essential resources by learners from low-resource families, the girl child, and those with disabilities. The findings were quick to note that such policies are often not effective in providing sustainable and lasting solutions to the marginalised groups they were developed to cover. Such insights are critical for reviewing existing policies and developing new ones that take realities on the ground on board.

Crucial findings also emerged from document review data. The data presented key areas of analysis or the themes that shaped the data generation process. This includes how gender equity, educational access and poverty eradication, disability inclusion,

health and digital access are portrayed in Zimbabwean policy frameworks. The specific findings based on the key areas of analysis reveal that Zimbabwe's policies mandate gender equity and protect the girl child's education. It emerged that Zimbabwe as a country has strong legal provisions for disability inclusion in all walks of life, yet practical enforcement of such policy remains a cause for concern. The data generated highlights that most of Zimbabwe's policies promote universal education and poverty eradication; however, systemic exclusion gaps remain. The data from policies reveal that the country has health and nutrition-related policies, yet sustainability challenges affect the long-term impact, particularly in marginalised ECD settings. Despite recognising the potential for ICTs as developmental tools, the Zimbabwean policies lack specific policies targeting the advancement of online learning in marginalised ECD settings. This is evident from the lack of enforceable standards, infrastructure plans, and affordability mechanisms for equitable ECD online learning access. The policy document review exploring these key areas of analysis was critical for drawing the extent to which policies strive to address marginalisation and advance access to online learning.

The study findings directly address the central research question of what policies exist to address the issue of marginalisation and access to online learning for learners in underserved communities, by exposing critical gaps in the policy landscape. Without a clear policy framework targeting equitable access to digital learning in marginalised communities, a war to fight digital exclusions embedded in historical and structural inequalities will remain unattained.

The findings of this study correspond to previous research in significant ways. The study findings reveal that colonial policies and practices laid the foundation for linguistic marginalisation. A study by Tavarez (2025) revealed that colonial powers in Africa implemented language policies to enforce domination, leading to language shifts, extinction, and cultural upheaval among indigenous populations, perpetuating neo-colonial linguistic approaches post-independence. Another study by Laitin, Ramachandran and Walter (2019) underscored the existence of colonial language bias during colonial times, which the education systems in Africa continued to rely on as the medium of instruction. The study supports the use of indigenous languages in the teaching and learning process as this has a positive impact on learners' educational outcomes. From the perspectives of Kaschula and Kretzer (2019), white

settlers imposed a language policy which marginalises indigenous languages and cultures. This move impacted the education and community dynamics significantly. This situation emphasises the role of power in shaping language policies and practices. When viewed using the critical theory lenses, particularly that of Paulo Freire's (1970) pedagogy of the oppressed, educational policies may be sites of either liberation or domination. During colonial era, language policies were meant for domination and control, as confirmed in Dascomb's (2019) study that links the imposition of the English language by the colonial government as a broader way of advancing imperialistic goals and control over the colonised people, a practice that robbed locals of their right to their mother language and their indigenous knowledge systems.

Although the government of Zimbabwe has a language policy which promotes decolonisation of the education system and promotion of indigenous knowledge systems and languages as advocated by post-colonial theory, world eventualities such as pandemics and disasters compel schools to shift to online learning with content that is currently in a foreign language. This perpetuates the colonial legacy.

The findings of the current study and those of prior studies are confirmatory evidence of why most schools that were formerly colonised by the white settlers use English as the medium of instruction. Although learning using English is not a bad idea, it, however, neglects the use of local languages, which helps, especially young learners, to understand the concepts learnt. With regard to online learning, the use of the English language and having online learning content in a foreign language is a clear perpetuation of the colonial legacy. The language policy in Zimbabwe stipulates that early childhood learners need to be taught in the vernacular, yet no online learning content is in local languages. Teachers may have no option but to use English. This has an impact on the engagement and understanding of instructions by young learners. It is against this background that the current study calls for online learning content that takes learners' language and cultural experiences into consideration.

Not only did the colonial policies lay the foundation for linguistic marginalisation, but they also acted as structural tools for promoting rural underdevelopment. This finding corresponds to previous studies. A study by Cowie, Townsend, and Saleminck (2020) confirmed that those responsible for digital advancement in the modern day, as well

as during the colonial period, normally favour urban areas, and this tendency is likely to marginalise rural places further. Henry (2019) further emphasised the existence of this bias by arguing that the colonialist system's preference for urban development has widened the digital divide, particularly in remote regions. Henry's opinion aligns with post-colonial theory, which questions and critiques the limited access to resources and opportunities emanating from colonial policies and practices. Yu, Appiah, Zulu and Adu-Poku (2024) shares the same viewpoint and confirms that when governments and policymakers define development targets, they usually fail to take the situation of rural populations into account. The oppression and inequalities existing in communities according to Waldron and Krane (2024) as discussed in chapter 3 can be addressed through critical theory that provides a lens to analyse the structural barriers to online learning access in marginalised communities. Critical theory advocates for policy reforms and targeted interventions to ensure equitable access to online learning (Paradis, Nimmon, Wondimagegn and Whitehead, 2020). These power dynamics that allow for uneven allocation of resources need to be contested, and policies that promote digital inclusion need to be developed. This urban bias in the economic development process (Cheng and Liu, 2024) resulted in the concentration of economic and technological improvements in urban areas, leading to an allocation of state resources that favoured urban priorities at the expense of national justice and efficiency. Policies and practices of the colonial era set up a border between the haves and the have-nots. This has support from Lancione's (2016) perspective of the margin as a situation where some individuals are placed on the other side of a border, whereas others are on the inside. The idea of the margin as a border underscores the division and separation inherent in marginalisation.

The rural–urban bias of the colonial past had planted a seed of inequality in terms of resource distribution within the communities, with urban settings at the better receiving end and the rural areas on the losing side. The seeds spread their roots to the post-colonial era, as evident in modern communities where the same situation of privileging urban areas is still in existence. This should be contested and plans need to be in place to address the urban-rural bias.

This study provides insights into the achievement gaps between children from elite families and those from poor families. The colonial education system set the stage for children from the elite families to be successful in upward social class mobility. The

colonial education policies ensured that no child from disadvantaged families had access to quality early childhood education, as confirmed by Mugweni's (2017) study results. According to Mugweni, only white privileged children had access to early childhood education in the colonial times. The research by Amoako, (2020) reinforces the fact that during colonial times, formal education was primarily accessible to privileged children, while children from low-income and remote homes were largely excluded. A recent study by Singh (2024) in South Africa revealed that colonialism is still manifesting itself in educational practices by using the educational content that reflects the culture of the elite learners and neglecting those of the poor black children. This scenario can be perpetuated in an online learning environment. The resources for online learning are available and accessible for learners from privileged communities, making online learning a privilege of the rich, as it was during the colonial period. The challenges brought to Africans by the colonial policies can best be understood through post-colonial theories. Samantha (2021) views post-colonial theory as a way of contesting colonial ideologies that exist in European texts about the colonies and all the practices that led to the impoverishment of the black masses. The expectation in post-colonial times is that all the policies and practices that perpetuate disadvantage for the already disadvantaged members of the communities be abolished, and those that promote equity and inclusion be developed.

The study findings highlighted several policies that seek to address the issue of educational marginalisation in underserved areas in Zimbabwe. These include the Free and compulsory Education policy, Basic Education Assistance Model, School health policy and the feeding programme, National Gender Policy, National Disability Policy (2021), National Development Strategy 1, Constitution of Zimbabwe (2023), and the Education Act; the list is endless. Each policy and regulation seek to address a gap, especially for individuals from remote rural areas. From the number of existing policies and legislations to address the marginalisation issue, it can be argued that the government of Zimbabwe has realised the significance of policies as pillars for any initiative taken to offer solutions to today's problems. This aligns with Matjokana (2022)'s assertion that behind any successful quality early childhood provision are policies that guide the implementation of the programme.

The Free and Compulsory Education policy and the Basic Education Assistance Model (BEAM) strive to ensure that every child has access to education. The existence of

these two policies highlights the government's commitment to put an end to resource marginalisation, which is currently prevailing. However, participants also voiced that some existing policies, such as the Free and Compulsory Education policy, are yet to be implemented since learners are required to pay school fees. In light of the above, the BEAM is underfunded and cannot cater to all eligible learners. Taking cognisance of the research findings above, it can be argued that the state is not doing enough to meet the needs of learners from marginalised communities and there is a need to have a re-look into policies, coming up with a monitoring and evaluation scheme to check the extent of implementation of the existing policies. If the free and compulsory education and the BEAM initiatives are truly supported, children will be in school and learn.

The school health policy and the feeding programme emphasis the creation of safe school environments and the provision of hot meals to all the children in school. The study established that the nation has policies tailored to tackle general marginalisation, which can manifest in the form of limited access to health and malnutrition challenges. Having policies that seek to address these challenges is of paramount importance. This is in line with what emerged from the literature, where malnutrition has been identified as a global public health challenge affecting mostly women and children in Africa (Matsungu and Chopera, 2020). A local study by Lukwa, Siya, Zablun, Azam, and Alaba (2020) found similar results that showed that food insecurity and malnutrition in young children are public health concerns in Zimbabwe. The literature findings underscore the need to address food insecurity for learners in disadvantaged communities through policy interventions.

The call for the provision of food in preschools is in alignment with Sustainable Development Goals 2 and 3; hence, it should be a priority in every early childhood setting (Lewis, Smit, Smit, and Nel, 2022). The study findings, as evident from both the interviews and policy documents, underscore the Government of Zimbabwe's commitment to address health-related marginalisation through the implementation of various policies. This alignment of findings from two different data sets highlights the government's concerted efforts to reduce health disparities in communities. Policies such as the feeding scheme directly impact children's physical growth and development, while the prioritisation of nutrition and health in various policies ensures that the nation has healthy learners who can attend school consistently, engage

actively in learning, and achieve better academic results. Schools are, as a result, compelled to provide a healthy environment for learners to grow and learn. Research indicates that water, sanitation, and hygiene (WASH) interventions in schools could significantly impact children's health and education (Ahmad, Abayomi, Tony-Okpalaobi, Odetola, Njoku, Edebeatu and Antai, 2025).

Having the feeding scheme in schools, according to the findings of the study, fails to provide the reprieve needed for children from less privileged families. The initiative is partially funded by the government, with the communities expected to provide the rest of the resources needed to make the programme a success. Schools in marginalised communities have a weak financial muscle and cannot afford to buy the relish and other supplies. This becomes a gap in the implementation of the feeding programme policy.

The gender policy and disability policy further ensure that when in school, boys and girls get the same treatment, and the needs of those living with disabilities are taken care of in schools and beyond. It emanated from the study findings that Zimbabwe is committed to the creation of an equitable educational landscape through addressing gender disparities in access to education. The perspectives from participants and those of the reviewed policies underscore the role of existing policies in promoting equal opportunities for boys and girls, addressing the historical gender imbalances. The nation provides a legal foundation to challenge and address systemic inequalities by embedding gender equity into policy frameworks (National gender policy 2013). Policies such as the Education Act prohibit discrimination based on gender, tribe, race or socioeconomic factors. This reflects the policy intention to dismantle systemic barriers and create an inclusive environment that promotes positive learner outcomes. Such strategies align with Sustainable Development Goal 4, which speaks of the provision of equitable, quality education. The emphasis on gender equity not only ensures equal enrolment opportunities but also encourages a shift in societal attitudes that have historically undervalued girls' education. By framing gender equity as a constitutional right, Zimbabwe recognises the transformative power of education in reshaping social norms and empowering marginalized groups, particularly girls. This policy environment reflects an alignment with global best practices, where legal instruments serve as tools for promoting inclusivity and equity. In connection to the

current study, the creation of an environment that values access to digital educational resources for both boys and girls is what the study seeks to achieve.

Although several policies to tackle the already existing inequalities in marginalised communities were widely identified in literature and by the study participants, there are indications that the war is not yet over. Gaps still exist between policy stipulations and policy implementation. The nation needs to scale up the funding of each legislative or policy developed by the members of parliament or the Ministry of Education to bridge policy-reality gaps.

The participants were also asked to identify policies that seek to promote access to online learning. The qualitative document review also focused on policy clauses that spoke of online learning in early childhood. The following policies were found in both data sets to offer something in line with digital learning: The Education Act, as amended, the Zimbabwe Early Learning Policy (ZELP), ICT Policy, and National Development Strategy 1 (NDS1). From the layman's lens, a glance at the document analysis data could reveal the existence of various policies that aim at addressing the online learning needs of young learners, yet very few clauses mention online learning in early childhood. Most of the existing legislative frameworks seek to promote the use of technology in Zimbabwe in general, and from the lived experiences, such policies have little impact in moving the desired initiative forward. While the policies prioritised technology access for various groups of people, it lacked specificity regarding the inclusion of early childhood learners in digital learning initiatives. Thus, there are absences and silences about the adoption of online learning at the early childhood level and how the digital divide that is continuously disadvantaging those from unprivileged families can be resolved.

Both the policy and interview data suggest that the digital divide is widening between those without access to technology and those with access, acknowledging a digital connectivity disparity that is obtaining in marginalised communities, and addressing this gap requires policies that are specific and focused. The national systems need to prioritise the development and dissemination of policies that seek to promote access to online learning for young learners in marginalised communities. The Zimbabwe National Policy for ICT (2022–2027) is one of the policies that acknowledges the existence of the digital divide and the need to close it. The digital divide, according to

this policy, can be addressed through ensuring high-speed broadband coverage for rural areas and marginalised communities where access to broadband is limited. The Zimbabwe National Policy for ICT (2022–2027) advocates for increased access to free Wi-Fi for educational purposes. It also promotes e-learning and the use of e-learning materials throughout Zimbabwe, including the youth, marginalised communities, and people with disabilities. These clauses from the ICT policy are a positive move to address digital marginalization by making Wi-Fi more freely available for teaching and learning purposes.

The discussion of findings on policies cannot be complete without exploring it in the lens of Bronfenbrenner's Ecological Systems Theory (1994) as highlighted in the conceptual framework. This theory provides a multidimensional lens for understanding how policies contribute to or hinder access to online learning in marginalised contexts. At the microsystem level, policies such as the feeding programme and disability inclusion directly shape children's immediate learning environments, influencing their health, engagement, and capacity to participate in digital education. Moving outward to the mesosystem, the interconnections between schools, families, and communities are mediated by policies on parental involvement and digital inclusion; weak infrastructural support undermines these linkages, limiting the ability of parents to reinforce online learning at home. The exosystem highlights the indirect effects of institutional policies such as BEAM or ICT strategies, where underfunding or vague implementation clauses determine whether schools can waive fees or provide connectivity, thereby indirectly shaping children's access. At the macrosystem level, colonial legacies and post-colonial policy frameworks form the broader cultural and political environment, with the continued dominance of English in online learning content perpetuating systemic exclusion and cultural marginalisation. Finally, the chronosystem situates these dynamics within historical and temporal shifts, showing how colonial policies of urban–rural bias and linguistic domination continue to reverberate in contemporary digital divides, while global events such as pandemics compel rapid shifts to online learning that expose policy gaps. By mapping Zimbabwe's policy landscape across these ecological layers, the analysis moves beyond a descriptive account of policy provisions to a theoretically grounded critique that demonstrates how structural inequalities cascade through multiple levels of influence, ultimately shaping the lived realities of children in marginalized ECD settings. This

ecological framing underscores the necessity of policies that are not only well-articulated but also contextually responsive and enforceable across all layers of the child's environment.

Findings from the study revealed a significant gap in the existing policy framework to guide online learning for young learners from marginalised communities. As the fight to reduce the impact of poverty on marginalised communities, the nation must bear in mind that there are emerging problems adding up to the underdevelopment of individuals living in underserved communities. What used to be concerning and the needs for learners in marginalised communities have been coupled by emerging ways of teaching that require the shift to online learning. Countries, specifically Zimbabwe, need to transform their educational policy frameworks to allow for an end to marginalisation and seamless adoption of online learning in early childhood settings. Without undergoing policy reforms, young children, especially those from less privileged families, will remain digitally unprepared for future disruptions that require a shift to digital learning models.

5.7. Conclusion

The purpose of this chapter was to present, analyse, interpret and discuss data generated with participants to answer the research question: What policies exist to address the issue of marginalisation and access to online learning for learners in underserved communities. Exploring the policy landscape within online learning was critical for understanding how policies align with the digital learning agenda and the policy transformations that may be needed to achieve digital inclusion, particularly in underserved communities.

The study reveals that colonial policies and practices laid the foundation for linguistic marginalisation. Not only were the colonial policies laying the foundation for linguistic marginalisation, but they also acted as structural tools for promoting rural underdevelopment. This study provides insights into the structural achievement gaps between children from the elite and those from poor families. The colonial education system set the stage for children from the elite families to be successful in upward social class mobility by making pre-school education a privilege for children from the rich families. In the modern day, the study confirms the perpetuation of colonial legacy,

particularly in ensuring that children from elite backgrounds have access to resource-rich schools that allow them access to digital tools. The English language is still a medium of instruction despite the language policy that compels schools to use local languages for learners in the infant module. The chapter highlights gaps regarding national policies in Zimbabwe. It emerged that several policies exist to address the marginalisation issue. Most of these policies have gaps especially in the implementation and funding phases. The study underscores the absence of specific policies to address digital learning concerns for learners in marginalised early childhood settings.

The identified findings directly address the research question by highlighting both the existing colonial and contemporary policy landscape in Zimbabwe, citing policy gaps. This is critical for transforming the existing and developing new policies that meaningfully and sustainably address issues of marginalisation and access to online learning.

This study contributed greatly to the field of digital learning by calling for a critical re-evaluation of both contemporary and historical policy frameworks. The study, through the lived experiences of the participants and document review data, exposes gaps in existing policies regarding their effectiveness in promoting digital learning and supporting the full eradication of marginalisation in Zimbabwean rural communities. In this study, I advocate for decolonisation of the early childhood educational practices, enforcing inclusive online learning standards. Thus, the study views the transformation of existing policies as imperative for pushing the online learning agenda for marginalised ECD settings forward. The study findings have implications

Conclusively, the findings presented in this chapter underscore the fact that while Zimbabwe has policies targeted at addressing multiple forms of marginalisation; they often fall short of dealing with deep-rooted legacies of marginalisation, particularly in ECD online learning. If policies are to serve as tools for promoting digital access, they need to evolve beyond rhetoric into action. Policy development should be research-based, guided by the reflections of lived realities of marginalised communities, their language and knowledge systems. In the face of persistent digital divides, the time to act is now. The next chapter will focus on digital learning in marginalised communities.

CHAPTER 6

Findings and discussion chapter 2

Beliefs of online learning and marginalisation in ECD

6.1 Introduction

In this chapter, findings of the research are presented and discussed, focusing on the analysis of participants' responses. School heads' voice was used to reflect key themes that framed this study, and findings from other stakeholders, like the teachers, were adopted as a way of triangulating the data. This chapter seeks to address the following two research questions:

What do the beliefs of teachers suggest about the significance of online learning access in ECD settings in marginalised rural communities? What strategies exist for promoting access and support to online learning in early childhood settings in marginalised communities?

Participants were asked to show their understanding of the concept of online learning/digital learning. They made suggestions for strengthening access to online learning for marginalised young children, identified areas where they need further training, and contributed to promoting access and support to digital learning. Suggestions for teacher training programmes were also provided. Each participant was assigned a code; for school heads, the code "SH" was used, and "TR" was the code for teachers. Data was analysed following Braun and Clarke's (2022) reflexive thematic content analysis model. The interpretation of the research findings is supported by excerpts from the participants' responses. A statement was provided after every presentation to reflect the key findings from participants' responses. After the analysis and presentation of findings, a discussion of the findings followed, comparing the findings to existing literature and linking the findings to the conceptual framework guiding the research study.

6.2. Awareness of the concept online/digital learning

Participants were asked to share what they know about online learning. Their responses are presented below:

SH 1: Online learning is a strategic tool that allows flexible access to educational content using digital platforms. It supports continuity of learning beyond the physical classroom.

SH 3: In my opinion, online learning is a flexible content delivery mechanism that involves use of technology and it allows learners to learn in the comfort of their homes.

Teacher participants raised the following definitions of online learning:

TR 1: In my opinion, online learning is education done through use of computers

TR 6: To me, online learning is a learning platform where teachers teach and learners learn outside of the traditional classroom-based teaching.

One district official offered his understanding of online learning by saying:

DO 1: I conceptualise online learning as a platform that allows for transmission of knowledge to learners by using the internet and the electronic devices.

The participants' awareness of the concept of online learning brings confidence to this study, knowing that the lived experience of access to online learning that was explored emanated from individuals with knowledge of the phenomenon being studied.

6.3. Beliefs on the significance of online learning in ECD

Participants were asked to provide their views on the significance of using online learning in early childhood settings. The presentation, interpretation, and discussion of the findings begins with beliefs on the benefits of online learning in ECD, followed by factors that influence teacher beliefs, and finally by teacher beliefs and practices.

6.3.1. Benefits of online learning in ECD

Several benefits of online learning in ECD that participants shared are discussed in the sub headings below:

6.3.1.1. Digital skills development

The majority of the generated data revealed that exposing young children to online learning was a noble idea. Online learning was seen as pivotal for equipping young learners with digital skills essential for future employment in a technology-driven world as evident in the excerpts below:

SH 1: I think the integration of online learning in ECD curriculum may bring with it the advantage of developing young learners' digital skills needed in the workplace in the digital era.

SH 2: From my perspective, exposing early years learners to online learning is critical and needs to be a right of every child. Online learning integration prepares young learners for a technology-driven era, preparing them for various professional domains.

The responses of the teachers also confirmed the significance of introducing digital learning to young learners. In her response, TR 7 said:

TR 7: Yes, I believe online learning is good for young learners since it prepares them for the 21st-century workplace and can provide a secure substitute for in-person classes, ensuring the uninterrupted progression of education.

It emerged from the participants that early exposure to online learning by young learners can foster familiarity and comfort with digital tools. By interacting with technology from a young age, children can develop essential skills such as navigating digital interfaces, troubleshooting technical issues, and using software applications. Online learning effectively enhances children's technological literacy by introducing advanced learning tools and platforms.

6.3.1.2. Continuity of learning

Online learning emerged as a significant platform for continuity of learning, especially during the crisis period, as seen in SH 4, SH 5 responses that appear below:

SH 4: I advocate for the use of online learning tools for early learning. When it becomes part of the school-based platforms for delivering content to learners, we don't struggle in cases of disruptions due to pandemics or disasters.

SH 5: I consider the use of online learning in ECD quite appropriate. Use of online learning in a crisis period is crucial to avoid learning losses in cases where face-to-face instruction is not possible.

This finding also emerged from teacher participants. Teachers need online learning to be every child's right and be incorporated into the ECD curriculum. When this platform is rolled out in every school, the nation will be guaranteed of a smooth shift to digital learning in cases of a crisis, as evident from teacher responses below:

TR 3: In my view, the introduction of online learning in the early years curriculum is important. Children will have skills that are critical for education done outside the classroom, especially in crisis times.

TR 7: In my opinion, online learning allows for continuity of learning during a crisis period and should be strengthened starting from the early years of learning.

TR 10: Online learning broadens the spectrum of available multimedia resources, encompassing videos, games, e-books, and digital stories, thereby amplifying the engagement and depth of the learning experience, especially during disruptions of classroom-based instruction.

Participants suggested that online learning broadens sources for learners to get educational content beyond the borders of the classroom. Through online learning, learners can access educational resources through videos, e-books, games, or digital stories as schools are closed due to world eventualities.

6.3.1.3. Continuous flow of information

The other benefit of exposing learners to digital learning, which emerged from the study participants, was enhanced information flow. According to the generated data, online learning facilitates constant communication among learners, teachers and parents both in ordinary and difficult times, serving as a robust information delivery platform. These ideas are presented in the excerpts below:

SH 1: I think online learning allows for a constant flow of information, especially in difficult times, and serves as an information-sharing platform to curb the spread of the pandemic.

SH 3: I don't have any reservations about teaching ECD learners using online learning platforms. Use of online learning platforms is paramount, especially during a crisis period. Learners and their families need online learning tools where information about the current crisis can be shared and ways of reducing the spread, especially if the crisis is in the form of a pandemic.

Teacher participants also expressed the same sentiments, highlighting the importance of access to information during a crisis as reflected below:

TR 7: We need a platform to communicate research-based or expert solutions when we are in a crisis, such as pandemics or natural disasters. Online learning can offer this opportunity for information sharing.

Participants raised high hopes in digital learning, especially for its room to promote continuous information flow, which is critical for addressing issues of disease spread among the people, as was seen during the COVID-19 pandemic period. This continuous information flow ensures that all stakeholders remain informed and connected, enabling a coordinated response to emergencies and minimising disruptions to the learning process.

6.3.1.4. Safety concerns for online learning use in ECD

It emerged from a few of the participants that online learning is not appropriate for the young learners. This emerged particularly from ECD teachers who noted that:

TR 1: *Online learning is not appropriate for early childhood learners since it has some negative impact on children's health development.*

TR 5: *In my view, using online learning for young children, especially in rural areas, is not appropriate. I say so because there are health threats related to the use of computers by young children. Teachers are not prepared and there is limited infrastructure for digital learning currently in our schools.*

TR 11: *It's not appropriate. It brings more health-related issues to learners. At the same time, the current state of digital infrastructure in our country, particularly here in rural areas, is not favourable for any forms of online learning. More is required before online learning becomes the best method for delivering content to young learners.*

The finding above suggests a consistent perception among the participants that digital learning is not appropriate for early years learners, especially in rural areas. All the excerpts highlight health-related issues that could affect children's overall physical health. The finding also suggests a gap in teacher training and readiness, which has an impact on the implementation of the digital learning instruction. Apart from teacher training, participants mentioned that in most rural areas, there is limited digital infrastructure, and this may hinder the feasibility of online learning in such settings. There is a need for developmental readiness for online learning to be an efficient tool for ECD.

6.4 Factors that shape teachers' online learning beliefs in ECD

The participants were requested to describe the basis of their perceptions on the utilisation of online learning in ECD. A number of factors emerged and it is presented below:

6.4.1. Teacher experiences

The study shows that the experiences of teachers with online learning tools impact their perceptions. This is reflected in the excerpts below:

SH 2: *In my opinion, beliefs are shaped by experiences that teachers have with digital learning. Teachers who had positive experiences with online learning, either as college or university students, normally have positive attitudes towards online learning adoption in ECD.*

DO 2: *I have positive beliefs about the use of online learning in early childhood education, which emerge from the experience I have with my own children. My four-year-old child is so comfortable using digital devices. Her level and competence in using these devices is testimony that it is possible to teach young learners using digital devices.*

There was an alignment between perceptions of school heads and those of the teachers, as shown below:

TR 3: *During my time at College, I had no exposure to digital learning, leaving us without digital skills for online teaching. This makes us feel scared of an educational instruction that uses computers.*

TR 12: *I am confident in using digital learning platforms with young learners because of the experience I have using such platforms during my undergraduate degree at the university.*

It emerged from the participants' voices that teachers' personal experiences with online learning tools significantly influence their beliefs. Teachers with positive experiences of using online learning platforms during their own professional development programmes or positive outcomes observed in young children using digital devices tend to foster supportive beliefs and attitudes towards online learning. Positive experiences can lead to acceptance of digital instruction with young children.

6.4.2. Global debates and success stories

The result of the study shows that perceptions of the appropriateness of online learning in early childhood are shaped by the global debates and the success stories shared about the benefits of such an initiative. Participants' responses attest to this:

SH 3: *In my view, the global debates about the appropriateness of using online learning tools with young children shape our beliefs about their adoption in*

ECD. If the world's position on the use of online learning is clear and positive, then teachers will have no choice but to adopt it as part of their professional practices.

SH 4: The reports from literature about the successful implementation of online learning in early childhood in other contexts give us hope that even in our context, given the necessary support, it's possible.

Same sentiments emerged from the early childhood teachers as presented below:

TR 6: My perception of the use of online learning with young children has roots in the global call for action regarding digital learning as a platform for delivering content to young children. The international bodies such as UNICEF and UNESCO also advocate for digital learning in early years settings.

The online learning education for young learners in marginalised early childhood settings depends on the beliefs and attitudes of parents towards this mode of learning. If parents and families perceive digital learning positively, teachers will be motivated and accept the responsibility of moving the online learning agenda forward. Conversely, negative parental attitudes can hinder the utilisation of online learning despite ECD teachers' beliefs.

6.4.3. Stakeholder beliefs

Stakeholder beliefs emerged as one of the factors impacting perceptions of digital learning in early childhood as evident from participants' responses.

SH 3: In my view, the general feelings across the general populace on the adoption of online learning in ECD shape teacher perceptions. For instance, having families that support the use of online learning in early childhood would be the basis for teachers' beliefs in the appropriateness of using digital platforms for teaching and learning. In contrast, parents who hold negative beliefs about online learning will not support it in schools, and as a result, teachers may not support it as well.

DO 1: The will of stakeholders such as the government and the Ministry of Education in advancing the online learning initiatives impacts teacher

perception on the use of online learning. In a context where the government and the ministry are not supporting digital learning, teachers will not support it as well.

From the teacher participants' view, the awareness of parents regarding digital learning in early childhood either leads to their support of the initiatives or rejection of it. What parents say has an impact on the manner in which teachers see the implementation of digital learning with young children. TR 11 stated that:

TR 11: Teachers' view of online learning is influenced by how stakeholders, like parents, view it. Parents support online learning if they see value in it. The same value goes to teachers as well.

Policies emerge as one of the significant factors that shape teacher beliefs. Both national and ministry policies regarding access to digital learning in early childhood education impact teacher beliefs. The availability of supportive policies affects teachers' perceptions of the significance of integrating online learning in early childhood education. Policies set the path for the provision of necessary infrastructure, resources and funding needed for teacher training and online learning. Conversely, the absence of legislative frameworks for digital learning can create scepticism or resistance in teachers.

6.4.4. Teacher training and infrastructural support

The other significant finding of this study was that teachers' digital competencies and the availability of internet services and devices, especially in underserved communities, impact beliefs on the use of online learning in early childhood. This emerged from responses from one of the school heads, as shown below:

SH 1: The preparedness of schools in terms of digital infrastructure and the readiness of teachers and parents to assist children with online learning affect the ways teachers perceive online learning in ECD. If everything looks ready and in place, as teachers, we will definitely hold positive beliefs.

SH 4: Lack of technological infrastructure in our communities impacts the way we view online learning. Actually, we see it as a non-starter since our school

and those around us here lack the devices and sustainable internet to support digital learning.

The responses for TR 9 and TR 12 corroborated with those of the school heads as shown below:

TR 9: *In my opinion, teachers who are well-trained and with adequate digital competencies are likely to have positive attitudes towards digital learning in early childhood education.*

TR 12: *I was not trained to use digital tools with young children and I believe this has a bearing on the manner in which I see online learning as a teaching and learning platform.*

An additional driver of teacher beliefs is the digital readiness of schools and the teachers. Schools that are digitally resourced and supportive of online learning at the ECD level produce an environment conducive to its adoption. Thus, infrastructure and readiness directly impact the practical use of online learning instruction with young children. The readiness of schools and teachers to implement digital learning with young children enhances the likelihood of its success. Interaction with co-workers and mentors can have an important effect on a teacher's beliefs.

6.5 Appropriateness of engaging ECD learners in online learning

Participants were requested to share their thoughts regarding the appropriateness of engaging young learners in online learning. The following excerpts were shared:

SH 1: *In my opinion, engaging young learners in online learning is not debatable; we are in the 21st century, where technological skills decide one's destiny; therefore, engaging learners in online learning is a must.*

SH 2: *I have concerns about introducing very young children to online learning, as it has adverse effects on their health, and it is very difficult to engage them in online activities.*

TR 1: *Yes, it is quite appropriate; however, barriers to access need to be addressed.*

TR 12: *Engaging learners in online learning is not negotiable since it is through this platform that continuity of learning is guaranteed in times of crisis.*

Most participants believe in the utility of engaging young children in online learning, affirming the relevance and necessity of online learning. However, one participant offered contradictory view. The participant thought that engaging young learners in online learning has adverse effects on their health. This dissenting voice is not representing resistance to technology but an understanding that while online learning holds promise for ECD, its implementation must be context-sensitive.

6.6. Beliefs and classroom practices

Participants were asked to discuss the relationship between the online learning beliefs they hold and their actual classroom practices. The responses from both the school heads and teachers underscored the significance of beliefs on teachers' classroom practices. The heads of schools reiterated that people tend to pursue what they believe in. For this reason, teachers put effort into young children's online learning if they believe in its importance. Below are excerpts of school heads' responses.

SH 1: *I think beliefs drive action. Teachers' beliefs influence their choice of teaching strategies. Teachers with positive online learning beliefs, who believe in its effectiveness, are more likely to advocate and use more technology-based activities in their teaching processes.*

SH 3: *In my view, beliefs about the appropriateness of online learning in early childhood impact teacher practices. Teachers with positive beliefs put more effort into pushing the online learning agenda forward, while those who do not believe in technology-based learning in ECD resist shifting to this instructional model.*

Teacher participants offered responses that tally with what school heads suggested. The following excerpts illustrate this:

TR 2: *My beliefs about online learning stand as the basis for supporting the use of online learning in early childhood. As a teacher, I can only advocate for an*

instructional approach that I believe in its significance. Thus, teacher beliefs are the basis of teacher advocacy in early childhood education.

TR 8: *In my view, teachers' beliefs about the purpose and value of online learning significantly influence their willingness to adopt and effectively use digital tools in the classroom. Teachers who prioritise online learning tools invest their time and effort in mobilising resources for digital learning.*

The responses of the participants suggest that teachers' online learning beliefs significantly influence their classroom practices. Beliefs were taken as a crucial determinant factor for the success of online learning adoption in marginalised early childhood settings. It emerged that teachers with positive online learning beliefs are more likely to embrace digital learning tools in their teaching than their counterparts with negative beliefs. This alignment between beliefs and practices can enhance the effectiveness of online learning experiences.

6.7. Obstacles to the implementation of online learning beliefs

Data was generated with participants on the obstacles teachers face in applying their online learning beliefs practically in the ECD classrooms. The following are the shared perspectives:

SH 1: *Despite holding positive beliefs about online learning in early childhood, a lack of digital infrastructure and skills may hinder teachers from turning their beliefs into classroom practices.*

SH 7: *Turning positive beliefs into classroom practice may face hurdles as a result of a lack of devices, poor internet access, and limited digital training.*

Teacher participants had this to say:

TR 1: *I seem to hold beliefs that contradict those of the school management. The school administrators are not doing enough to create an enabling environment for online learning. The school has no internet connection and no electricity to power the digital devices during online learning. This makes it difficult for me to put my beliefs into practice.*

The generated data highlights a clear cognitive dissonance that teachers experience when their beliefs are not consistent with the realities on the ground. Most participants were optimistic about the use of online learning in ECD; however, several systemic and infrastructural barriers hinder their practical implementation.

6.8 Discussion of findings

Key themes that emerged from the participants' data are presented and discussed below:

6.8.1. Appropriateness and benefits of online learning

While the empirical evidence for this study and some contemporary literature highlight the importance of exposing young learners to online learning (Alberola-Mulet, Iglesias-Martinez, and Lozono-Cabezas, 2021), other reviewed studies demonstrated reluctance to its adoption at this age group. This reluctance appears to emanate from perceived limited support, lack of resources in underserved communities and limited digital skills among learners, teachers and parents to move the curriculum forward using digital tools (Alghamdi, 2022). The benefits that online learning brings to learners and their families in disadvantaged communities outweigh its negatives. The findings of this study and prior research studies presented the perceptions of teachers regarding the significance of online learning for young children. The participants of this study believed that online learning is the best way of ensuring continuity of learning in challenging times. However, a minority of teachers raised concerns about health risks, infrastructural inadequacy, and developmental appropriateness of online learning for very young children. These dissenting voices are important because they highlight the need for age-appropriate guidelines, balanced screen-time policies, and infrastructural readiness before online learning can be fully embraced in rural ECD settings.

6.6.2. Factors that influence teacher beliefs

The results indicated that the beliefs teachers hold regarding online learning for young learners in marginalised early childhood settings are influenced by multiple factors, among them are teachers' professional education and training (Tatto and Menter, 2019). The results of this study underscore the contribution of the school and teachers'

digital competencies as contributing factors to the beliefs that teachers hold regarding digital learning. Tas, Eminoglu, Atila, Yildiz, and Bozkurt's (2021) research findings revealed that teachers' self-efficacy about online education is influenced by their education, prior to the use of technology, the sort of school they work in, and their active participation before the COVID-19 pandemic breakout. A minority perspective emerged from school head (SH 4) who shared that his own child's comfort with digital devices shaped his beliefs in the feasibility of online learning for young children. This personal testimony illustrates how lived experiences outside the professional domain can influence supportive attitudes. It suggests that exposure at the household level can foster optimism about digital adoption in schools.

Schools need to be prepared for young children's online learning and show maximum support for its successful implementation. This support will eventually shape the online learning beliefs of teachers. Teachers are there to support the vision of the school, so the school heads need to hold positive beliefs about the use of digital learning with young children and show their commitment to its implementation. That way, teachers will reflect on their online learning beliefs and try to align them with the school vision.

Policies and the legislative landscape of the nation also contribute to the nature of online learning beliefs that teachers may hold. This view is suggested by Mertala (2019), who contends that macro- and micro-contextual elements, such as the country's educational policies and personal experiences, impact teachers' beliefs. Similarly, Wulandari's (2019) study confirms that teacher attitudes can be influenced by broader socioeconomic and cultural issues such as expectations from society, policies regarding education, and cultural norms.

Although the majority of the participants as well as literature converge on the idea that supportive policies encourage positive teacher beliefs, a minority perspective emerged that questions the effectiveness of policies that are not backed by concrete implementation mechanisms and funding as shown in the excerpt: *Policies without funding options are useless pieces of legislation and will not bear their intended outcomes*. This minority perspective suggests that some teachers and stakeholders may hold sceptical or even resistant beliefs about online learning because they have experienced policies that exist only on paper, without practical enforcement or resource allocation.

Since policies were identified as one of the factors that shape teacher beliefs, the time is now for the government of Zimbabwe to enact specific policies that regulate the adoption of online learning in marginalised early childhood settings. The strength of a construction project hinges on its foundation; similarly, the creation of a digitally competent nation depends on how the nation prepares its citizens, starting from the very young children. Policies reflect the government's seriousness in moving the online learning agenda forward. In the context where the government shows a willingness and commitment to support online learning, teachers will have no option but to support it. The policies need to come with an implementation plan and funding options. Policies without funding options are useless pieces of legislation and will not bear their intended outcomes. The policies need to show how the digital divide is to be addressed in schools and how teachers' digital competencies are to be improved.

The global and community debates concerning online learning with young children also shape teacher beliefs. Emerging scholarship suggests that the global debate of whether the use of online learning tools is appropriate or not in early childhood education is no longer necessary, given the inevitability of integrating such platforms in ECD to promote continuity of learning in crisis times (Gjelaj, Buza, Shatri and Zabeli, 2020). This is consistent with the research outcomes for Dong, Cao, and Li (2020) in China, where parents and caregivers appear to be opposed to eLearning due to its constraints, including younger children's insufficient self-control, parents' busy schedules, and lack of devices and other technical support needed for online education. Such beliefs by parents have a bearing on how teachers perceive digital learning in ECD education. A study by Gjelaj, Buza, Shatri, and Zabeli (2020) on digital technologies in early childhood revealed mixed feelings among parents regarding the use of technology with young children. Apart from a clear position from school authorities on the use of online learning in ECD, the global community also needs to come up with a clear position about the feasibility of using digital learning with young children. Such a position needs to be reflected in national statutes and the Ministry of Education's practices. This will help clear all doubts and reservations that teachers may have regarding the use of online learning in ECD classes. This calls for global institutions like the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), the United Nations (UN), or the United Nations International Children's Emergency Fund (UNICEF) to clearly declare the use of online learning with young

children as mandatory for all nations and for all learners. In fact, digital learning needs to be included on the list of children's rights.

An understanding of factors that shape online learning beliefs for teachers in marginalised communities is important for the teachers themselves, teacher training institutions, the government and even the parents. Knowing factors that influence their belief system helps teachers to seek interventions that lead them to develop positive online learning beliefs. If they are negative about online learning due to a lack of digital skills, they need to seek professional development opportunities in digital learning. For the Ministry of Education, this knowledge is crucial in planning teacher capacity development programmes and awareness-raising programmes for parents, where online learning is marketed as every child's right to win parents' buy-in of this new learning model. The government can use this information to fund programmes that are aimed at shaping positive attitudes for teachers towards online learning. For institutions of higher learning, this knowledge will help them adjust the way they teach computer studies modules, ensuring that teachers have the digital competencies for working in an online learning environment before they graduate. During their studies, lecturers need to share with prospective teachers the success stories of online learning with young children. This helps them develop positive beliefs and a love for adopting online learning into their teaching practices. In the end, positive teacher beliefs become one of the crucial components that underscore effective access to online learning for learners.

6.6.3. Teacher beliefs and practices

The finding that teacher beliefs shape classroom practice resonates with existing literature, especially that of Subekti (2022) who posits that teachers' online learning practices are influenced by their beliefs. From the perspectives of Ferguson, (2025) teacher beliefs and epistemologies shape their instructional practices, including their interaction with the learners. Although beliefs shape practices, tensions exist as suggested by Leon Festinger (1957) who proposed a cognitive dissonance theory, which was described as individuals' psychological discomfort that results when their beliefs and actions are misaligned, influencing the decision-making processes. Teacher beliefs and practices was investigated via the perspective of cognitive

dissonance theory, which investigates the discomfort teachers feel when they have contradictory ideas to the proposed digital learning modalities (Kruglanski .et al., 2018).

The findings of this study reveal that many early childhood teachers experience tension between their developmental beliefs and the realities of online learning. It emerged that in real life classroom experiences, teachers may suffer from beliefs-practice conflict. Teachers may believe that online learning is not appropriate for young children due to its health-related concerns, or their belief in play and face to face interaction, yet they may find themselves using online learning platforms due to pandemics or as required by the policy. This emerge as a minority perspective where policies lead classroom practice rather than being shaping by their beliefs. At the same time, teachers may choose to remain sceptical or resistant when policies exist only as rhetoric without practical enforcement or funding mechanisms. While the dominant view is that supportive policies naturally encourage positive teacher beliefs and adoption of online learning, the text itself acknowledges that “policies without funding options are useless pieces of legislation and will not bear their intended outcomes.”

From the cognitive dissonance theory lens, these tensions can be understood as attempts to reconcile conflicting cognitions. The cognitive dissonance led teachers to reflect and potentially altered their beliefs to minimize the dissonance (Treacy and Leavy, 2021). In case of online learning, those who believe in play -based learning may reframed online activities as an extension of play thereby reducing dissonance. Others may adjust their beliefs, acknowledging that online learning brings in new set of skills essential for navigating the terrain of the digital age. The other group of teachers may maintain their position that online learning has adverse effects to young learners and resist adopting emerging technologies. This lens highlights the psychological processes underpinning shifts in practical and belief alignment.

For this reason, there is a need for investing in building teachers’ beliefs in online learning so that moving forward no teacher will be seen holding an opposing perception regarding online learning use with ECD learners. Once beliefs are dealt with, there is a need to concentrate on other online learning dimensions that stand as obstacles to the utilisation of online learning platforms, especially in marginalised early childhood settings. With a team that believes in the efficacy of digital learning, moving

the online learning agenda for marginalised early childhood settings won't be a challenge, as supported by Thurm and Barzel (2021), who posit that teachers' beliefs about digital learning-based education impact their willingness to adopt and effectively use digital tools.

6.7. Conclusion

This chapter addressed two of the study's research questions and the objectives were met. This study explored the lived experiences of access and support to online learning for early childhood learners in marginalised early childhood settings. From the results of the study, it was evident that online learning for marginalised communities currently faces challenges in the form of limited digital skills for learners, parents, and teachers, inadequate professional development for pre-service teachers, and limited access to internet facilities and resources. The study calls for a systemic support model where different service providers form a coordinated network of support to ensure all the conditions necessary for digital learning for learners in marginalised communities are put in place.

Previous studies have highlighted the need for online learning in ECD, putting forward a number of suggestions that could help to make use of online learning a success in the early years. However, little research had identified online learning as a child's right, and none of the studies suggested the inclusion of digital learning as a new domain to the existing traditional school readiness domains. Apart from bringing digital learning as a child's right and a domain of school readiness, the findings of the study could also contribute to teacher training policy-making and online learning delivery for learners in marginalised communities. The study prioritised involving participants from marginalised communities as part of the solutions to the problems they face. Normally, local solutions to world problems are sustainable. Prior literature on school readiness suggested that parents, schools, and teachers needed to be ready to promote the traditional school readiness domains among the pre-schoolers. Similarly, these actors, together with the government and its related ministries, donors, network providers, and technology companies, need to be ready for young children's online learning.

The next chapter presented findings on the challenges of the margins.

CHAPTER 7

Findings and discussion chapter 3

Challenges of the Margins

7.1 Introduction

The previous chapter explored the beliefs of online learning and marginalisation in ECD. This chapter presents findings of both the observation and the interview data on the broad theme of challenges of the margins. This chapter focuses on the presentation, analysis and discussion of data generated through observation of the digital infrastructure and resources found in each research site, as well as the interviews with early childhood development teachers and the school heads. This chapter sought to address the research question, *“What are the main obstacles to access and support to online learning for ECD learners in marginalised early childhood settings?”*

In an effort to understand the obstacles to access and support to online learning for learners in underserved communities, the study generated data on the historical foundations of marginalisation and how such histories impact the utilisation of online learning. Apart from the colonial practices and policies that may have an impact on the current digital learning practices in schools, the study generated general obstacles to online learning. This data was also analysed following Braun and Clarke’s (2022) reflexive thematic analysis model.

7.2. The concept marginalisation

Participants were asked to show their understanding of the concept marginalisation or being left out. Similar responses emerged although given in different terminologies as reflected below:

SH 1: Marginalisation is a social way of neglecting some people who need community access to resources. The neglect is unjust and unfortunate especially for a country full of mineral resources.

SH 3: *Marginalisation means that some individuals have trouble accessing fundamental services such as employment, quality education, health care, and access to emerging technologies, which other people within a given region are accessing.*

DO 1: *To me, marginalisation is when some people are consistently left out or ignored because of things like race, gender, socioeconomic status, or disability, which keeps them from fully participating in society's opportunities.*

DO 2: *Marginalisation is a form of social injustice where some individuals are denied access to the decision-making process, resources, and opportunities.*

The perceptions of the teachers on the concept of marginalisation mirrored those of the management, as shown below:

TR 1: *Marginalisation refers to the exclusion of some people in society, depriving them of access to essential amenities crucial for their survival.*

TR 5: *Marginalisation is a way of treating other individuals as second-class citizens, depriving them of access to essential resources and opportunities.*

TR 8: *Marginalisation is when individuals or groups are pushed to the edge of mainstream social, economic and cultural life. It is normally based on race, gender, religion, ethnicity and disability.*

TR 9: *I think marginalisation is a process that limits other individuals from accessing essential services like education, health, and jobs.*

The findings of the study showed that district officials, school heads and ECD teachers knew what marginalisation is. From the responses, the following emerged as key terms that can be used to better understand the concept of marginalisation. Marginalisation was taken as a process of depriving other people within the community of access to essential resources crucial for living. It was also taken as an unjust system of disadvantaging other people. The injustice can be in the form of excluding certain people from decision-making and accessing facilities that are fundamental for human living. To some, marginalisation is a process that ensures that certain groups of people, such as girls, women, and older people, those with disabilities, or living in remote rural areas, live as second-class citizens with limited access to life amenities.

Other participants took it as a way of side-lining certain groups of people to the periphery of mainstream life.

7.3 Challenges and Concerns

This section explored both teacher-related and general barriers to digital access and support in the form of challenges as experienced by the participants. The first part discussed teachers' digital skills gaps and how they impact digital access. The other part presented general challenges related to access and support to online learning at ECD level.

7.3.1 Digital skills gaps in ECD teachers

Participants were asked to express their views regarding teachers' digital literacy gaps. This was critical to understand from the teachers themselves what they lack regarding the execution of the digital learning instruction with young children. The findings to this question are presented below.

7.3.1.1 Lack of familiarity with computers and digital learning tools

Most school heads believe that their teachers need to master the issue of digital learning. Participants mentioned that teachers needed to be familiar with online learning platforms and how to execute them with young learners. The excerpts below show the sentiments of the school heads.

SH 1: Teachers need to have basic computer skills for working in online learning; currently, teachers do not have such skills. They need skills to develop online learning content tailored to young children.

SH 4: My thinking is that our teachers need training on how to effectively prepare young learners for an online learning environment. They also need practical assistance on how to effectively deliver lessons online to young kids.

DO 1: One critical area in which I think teachers need further training is the use of online learning tools with young ones. Some teachers lack computer skills

to a certain extent; such teachers need basic computer skills, which will help them to function well in an online learning environment.

The responses from teachers corroborated what the school heads and district officials suggested. The teachers expressed a need for training in basic computer skills. They highlighted the need to understand how to operate a computer and navigate online learning tools. Their responses are presented below:

TR 1: *I need basic computer skills; I don't have any computer skills.*

TR 12: *I have enough digital competence skills to operate in any digital environment.*

TR 9: *I was not exposed to any practical computer use during my training period; the lecturers of our time just taught us to memorise some concepts about computers without necessarily giving us an opportunity to use them. So for this reason, I need to be exposed to basic computer skills then to online learning tools.*

The responses from the participants indicate that they are aware of the digital literacy skills gaps that may hold them back regarding their role as facilitators of online learning in early childhood settings. Their responses revealed a gap in teacher training as well, since most of them complained of a lack of exposure to practical computer studies at colleges. The responses of the participants bring to light the existing gaps in teacher training that need to be closed so that graduate teachers leave school with digital skills as exit profiles. The responses of the participants revealed that the current teacher training is not doing enough to prepare teachers for work in an online learning environment.

7.3.1.2 Engaging, motivating and assessing learners

From the management perspectives, teachers need training on how to motivate, engage and assess young children so that they effectively deliver lessons online, as seen in the following excerpts:

SH 3: *From my perspective, teachers need training in developmentally appropriate ways of engaging young learners in digital learning. Teachers also need training on how to assess young children online.*

SH 5: *Teachers need skills to motivate young learners to keep focused during online learning. They also need training on how to carry out an assessment of learners' growth and development using online learning.*

The concern of limited proficiency in motivating, assessing, and engaging young learners during online learning, which school managers raised, also emerged from the teachers alike. They voiced that:

TR 5: *I need training that equips me with skills to engage and promote learner participation in an online learning environment.*

TR 8: *I need tips on how to motivate learners as they engage with their online school work.*

Gaps in the area of engaging, motivating and assessing young learners during online learning emerged as a common challenge among the participants.

7.3.1.3 Limited learner management skills

Two heads of schools identified teachers' limited learner management competencies as a gap that needs to be addressed. In this regard, the participants stated the following:

SH 2: *Teachers need to have competency in handling student behaviour during online learning.*

SH 4: *Teachers need to know how to manage student behaviour during online learning.*

The issue of learner management as a gap in teachers that needs to be addressed emerged from teachers themselves, who posit that they need skills of controlling and handling young children as they do in online learning. This is reflected in the excerpts below:

TR 3: *I think I need training on how to handle learner behaviour.*

TR 8: *I also need knowledge on how to control learners during online learning sessions.*

7.3.1.4 Online content creation

One aspect of teacher training that was unique and exclusive to teachers was the need for training in online learning content creation. Participants noted that they need a training programme that equips them with online learning content creation. Below are the teachers' responses:

TR 6: *I need to be trained on how to create content for young learners and to effectively prepare them for digital learning.*

TR 8: *If I have an opportunity to go to school again, I wish to get information on how to develop local online learning content appropriate for learners in marginalised communities.*

The responses that emerged from the participants highlighted the importance of content creation in the context of online learning. The fact that this wasn't raised by the management shows the depth of knowledge that can be generated from the people on the ground. Because school heads are not directly involved in classroom teaching, they may not understand all the digital gaps that teachers may have. This also underscores the importance of generating data from different samples for triangulation purposes.

7.4 Barriers to access and support to online learning for marginalised ECD settings

Participants were requested to share what they think are barriers to access and support to online learning for young learners in underserved communities. What emerged from their responses is presented below:

7.4.1 Limited access to digital resources

It emerged as a finding that limited access to digital resources by young learners from marginalised early childhood settings has an adverse impact on the implementation of digital learning. The observed data shows that several schools had no digital devices, electricity, and working internet services needed for online learning. The same finding surfaced from the interview data.

SH 4: One critical barrier to online learning in marginalised early childhood settings is the lack of money by schools to purchase resources needed for online learning. Our school has just two laptops, which are not even enough to teach ten students. This is a gap that, when not addressed, there won't be any online learning to talk of.

DO 2: We have many obstacles that prevent our schools from using online learning instruction which include limited access to digital devices, internet and electricity.

Although I noted a positive move by the government to install internet services at each site of the research, barriers were noted that affect the effective use of the internet, such as a lack of funds for subscription and limited access to power backups. The observation aligns with what emerged from the generated data. School Head 1 and District official highlighted that the internet they received from the government was not in use because schools could not afford the monthly subscriptions.

Data generated through observations show that most parents in marginalised communities use small phones that have no access to the internet, and the network serving the communities was very poor. I could not access an application that needs internet during the data generation phase because of internet challenges. This has an impact on the utilisation of online learning platforms. The responses from the teachers, especially TR 3 and TR 11, underscore the challenges schools and families face regarding access to the internet and electronic devices, as shown below:

TR 3: Digital learning in disadvantaged communities is not possible due to the absence of sustainable internet provision needed for online learning. The community also receives very poor network broadband from a booster that is

kilometres away from us, and buying internet bundles is a challenge for most parents in this community.

TR 11: *In my opinion, online learning for learners in marginalised early childhood settings could not work due to the high costs of smartphones, which parents could not afford, as well as the poor network coverage that we experience here every day.*

The human resources personnel who were observed proved to be lacking digital skills to fully implement digital learning. In most sites of this study, both teachers and learners were found to be digitally illiterate. This was confirmed by school heads as shown in the excerpts below:

SH 3: *Most of our teachers are computer illiterate and cannot assist children through online learning.*

SH 5: *I consider limited digital skills for teachers as a critical barrier to early childhood online learning. Teachers are important actors in the digital space; their digital competencies determine children's access and use of digital learning platforms.*

From the teachers' side, limited digital skills emerged as a barrier that impacts the implementation of online learning for young learners in marginalised settings, as presented below:

TR 3: *In my opinion, how well online learning works depends on how good students, parents and teachers are with technology. If they don't have enough skills, it can make the program less helpful.*

TR 7: *In my opinion, limited digital readiness among children, parents, and teachers in marginalised communities impacts the effective use of online learning with young children.*

Observation data further revealed that shops surrounding most of the research sites do not sell electronic devices for online learning, such as smartphones and laptops. Although shops selling smartphones were noted in the growth point serving one of the research sites, none were observed to provide new laptops to the public. The available smartphones were priced very high compared to the same phone in large cities and

towns. This raised the issue of the availability and affordability of digital infrastructure and resources.

Interview participants raised the same issues, which the observed data brought forth as indicated below:

SH 2: In my opinion, the unavailability of digital devices in our local shops and the prices charged in our nearby town are too high. As poor schools we can't afford them.

TR 10: In my view, lack of funds by schools to support the online learning agenda is a hindrance to children's access to digital learning. This situation is coupled by the absence of shops selling technological devices like computers in our neighbourhoods. The school has to send someone to town to purchase the devices, which is an added cost to the school.

7.4.2 Lack of policy support for online learning

Lack of policy support for online learning in marginalised early learning settings emerged as one of the critical barriers to the digital learning space. Responses showed that access to digital learning is challenging in marginalised educational settings because of a lack of policy guidance to support access to digital resources, as shown in the excerpts below:

SH 1: One aspect that is concerning regarding the use of online learning in marginalised communities is the lack of a policy framework that supports the resourcing of marginalised communities so that online learning is possible.

SH 5: In my view, the government is not doing enough to support online learning for rural schools. There are no policies that compel schools to use online learning as part of their classroom practices, and the government and its partners are obligated to address the issue of the digital divide.

DO 2: Online learning currently is not a key priority area of the government, making the funding of this new teaching and learning model a challenge. There is a need to include digital learning on the national agenda so that it receives a share of the national budget.

One teacher concurs with the management perspectives regarding limited policies as a barrier to online learning use in marginalised early childhood settings. This is evident from the response below:

TR 12: *In my opinion, online learning in our country is not included in the national budget, and there are no policies that support its adoption, especially for marginalised early childhood settings.*

The responses of the participants suggested that policies are crucial in ensuring the successful implementation of digital learning in marginalised early childhood settings. In cases where policies are absent, implementation of digital learning suffers.

7.4.3 Health and Safety concerns

Participants felt that the health and safety of learners is at risk when using online learning platforms, as shown in the excerpts below:

SH 1: *I worry that online learning, if not watched carefully, can result in children using screens for a long time. This can be bad for their health.*

SH 2: *My concern is the safety of young children when learning online. They can be exposed to harmful content that may impact their normal growth and development. I am also worried about limited opportunities for social development in online learning.*

Teachers' views concur with the perspectives from school heads as shown below:

TR 9: *I am concerned about the health impact of using online learning platforms with young children and the possibility for limited social interaction opportunities that digital devices offer.*

TR 5: *I am reluctant to use online learning platforms even when having access to digital resources because I have health and safety concerns regarding the use of digital tools with very young children, such as eye strain.*

Research findings indicate that exposing young children to online learning could negatively affect their health and development. In addition to health and safety issues, participants were also worried that online learning limits children's social development.

7.4.4 Beliefs about digital learning

It emerged from the participants that negative perceptions of digital learning across different levels of human ecosystems have a bearing on the level of acceptance and adoption of online learning. Participants identified beliefs as part of the challenges that confront the implementation of early childhood online learning for marginalised communities. Participants commented:

SH 1: If there is a serious global debate about the use of digital tools with young children, it puts schools, parents, and teachers into doubt regarding exposing their children to online learning.

SH 3: I think one of the drawbacks to the acceptance of online learning is the lack of a national position on the usefulness of digital learning. If those in power do not believe in the utility of online learning for the early years learners, then its adoption becomes a pipeline.

DO 1: In my view, parents' negative beliefs and attitudes towards digital learning stand as barriers to the utilisation of their children's online learning.

The responses from teacher participants confirmed what school heads and district officials highlighted. Below are some of their responses:

TR 7: I consider parents' and teachers' beliefs as barriers in an online learning environment. I believe their negative beliefs influence their actions in an online learning environment

TR 12: In my opinion, teacher resistance is one barrier to effective online learning at the early childhood level. Teachers who do not believe in the efficacy of online learning normally resist its use.

The responses highlight the significant role of stakeholder beliefs in the implementation of online learning, particularly in early childhood settings. These beliefs can range from scepticism about the effectiveness of online learning to concerns about its impact on children's development. Negative beliefs can influence actions in the online learning environment, potentially leading to less engagement or support for online learning activities. This suggests that the perceptions and attitudes

of parents and teachers towards online learning can significantly impact its implementation and effectiveness.

7.5 Observed data

Several items related to access to online learning were observed. The observed data revealed that most research sites were served by network boosters that were far away from them. This leads to poor access to broadband. Most sites had internet installed at their schools (sites A, C, D, F); however, sustainability in subscribing to the internet was observed to be an issue. Most sites had limited access to technological devices, as evident from the observed lessons. Only site F had enough resources for ICT lessons. In most cases, it was only the teacher who had a computer, and learners hardly had the opportunity to interact with digital devices. Another observation that this study made was the non-existence of computers in shops serving most sites of the study. Only school F is closer to shops, where it can have access to digital devices; the rest have no access. This highlights the perpetuation of colonial urban-rural bias in regard to technological advancement. Only smartphones are available in the nearby town, and the prices of such devices are high compared to big towns. It was observed that both teachers and learners had limited digital competencies to engage with emerging technologies. Although learners expressed their enthusiasm to engage with digital devices (School F), their teachers were not. The observed data is confirmatory evidence of the challenges that early childhood settings in marginalised communities experience.

7.6. Interpretation and discussion of themes

The findings show that participants had a clear understanding of the concept of marginalisation, which emerged as systematic exclusion or deprivation of access to essential resources and opportunities. This exclusion is based on multiple variables, including gender, socioeconomic status or disability. The findings also revealed the systemic nature of marginalisation, taking it as a process of relegating some individuals to the periphery of mainstream opportunities. The participants' explanation of the concept underscores a shared understanding of the challenges learners in marginalised communities face, which underpins the challenges to digital learning

access. The definitions that emerged from the provided data are consistent with definitions from the literature. In chapter three, marginalisation was conceptualised as the displacement of indigenous people to the periphery of spatial, social, economic, and political contexts (Mowat, 2015). It was further described as a situation whereby those at the centre exert power over those at the margins (Aceska, Heer, and Kaiser-Grolimund, 2019) and as a process that leads to a lack of access to civic services and governance mechanisms, exacerbating the voicelessness and powerlessness of certain individuals (Ghosh (2020).

Apart from asking participants about their understanding of the concept of marginalisation, their training needs in the field of online learning were also solicited. It emerged as a finding that both school heads and teachers were aware of the critical skills needed to effectively work in an online learning environment with young children that include digital skills, learner engagement, assessment and content creation. The first training need that was identified was digital skills training. Teachers and school heads have limited digital literacy skills. This corroborates what emanates from the literature. A study by Ningrum, and Suherman (2020) found that 97% of the teachers they surveyed were not digitally literate and could not integrate emerging technologies into their professional practice. Similarly, Marin, Popovici, Grivokostopoulou and Koutsojannis (2022)'s research confirms the existence of a gap in teachers' digital competencies. Furthermore, Casey, Pennington, and Mireles (2020) found that teachers' readiness to introduce technology and confidence in their own abilities to use it correctly are the most important factors in the successful implementation and sustainability of online learning use. What this finding entails is that the current teacher training programme is not tailored to the digital needs of teaching in an online learning environment.

However, there was a diverging perspective, with one teacher, TR 12, reported confidence in using digital platforms due to prior exposure during university training. This minority perspective shows that not all teachers are digitally unprepared, some have developed competencies through personal or academic experiences. Highlighting these voices demonstrates that while systemic gaps exist, there are pockets of readiness that could be leveraged for peer mentoring or pilot initiatives.

Teachers are graduating from teachers' colleges and universities without the necessary digital skills, and this needs to be addressed urgently. This can be through implementing comprehensive digital literacy training for both in-service and pre-service teachers, continuously updating them with emerging technologies. Some may argue that teachers need to take personal responsibility for acquiring digital learning skills since these skills are general life skills. However, systemic support is necessary to ensure all the teachers have access to a digital course that helps them meet the required standards.

The participants of this study revealed that they have limited skills to monitor, engage and assess young learners as they engage in online learning. The same finding emerged from observed data. Teachers proved to have challenges in engaging learners during ICT lessons. This finding confirms what Wang, Wen and Quek (2023) found in their study on engaging learners in synchronous online learning. The study found that engaging learners in online learning is often challenging. Manzunzu and Manzunzu (2021) investigated early childhood development teachers' perceptions of assessment of learners in Zimbabwe, and the study depicted that teachers had negative perceptions of assessment in ECD. This may be because teachers are graduating from colleges that are not fully equipped in terms of assessment. As a result, pre-service teachers must be taught how to organize and manage activities that engage participants in continuing discourse (Samu, 2020). The study findings, which reveal limited teacher skills for assessing, monitoring, and engaging young learners in an online learning environment, further highlight gaps within the teacher training programmes around the country. Teachers are graduating not only without digital skills to operate digital devices but also to assess and engage tools using digital tools. There is a need to develop training modules focused on engagement and assessment in online learning. Some may think that the traditional engagement methods can be applied to digital learning without any further training; however, an online learning environment may require different techniques and skills. This gap underscores the need for reform in pre-service education. Pre-service teachers must be taught how to organise and manage activities that engage learners in continuing discourse, using digital tools and strategies tailored to online contexts.

The finding that teachers lack knowledge and skills for creating online content for young children aligns with Goudarzi, Hasanvand, Raoufi, Amini (2023)'s study which

revealed that teachers were unfamiliar with online education creation technologies. Garzón Artacho, Martínez, Ortega Martín, Marin Marin, and Gómez García (2020)'s study also confirms that teachers have limited competencies, especially those needed for online learning content creation. Without content creation skills, teachers risk relying on externally produced content that may not reflect local cultures or learners' needs. A suggestion to address this gap emerged from Khotimah and Reza (2022), which emphasised improving teachers' professional competencies through digital literacy initiatives tailored to increase their content creation skills. Professional development initiatives should therefore include training in online content creation, enabling teachers to design culturally relevant and age-appropriate materials. This ensures that learners are exposed to content that resonates with their identities and experiences. While some argue that content creation should be left to experts, equipping teachers with these skills enhances their autonomy and contextual responsiveness.

The participants' responses further revealed that handling and controlling young learners' behaviour during online learning is a gap that teachers need to close through training. The responses further reveal teachers' desire to engage in learner behaviour management training. The competencies of early childhood education teachers to handle and control learners in an online learning environment have been flagged as a hurdle and a gap among the teachers. This finding is consistent with Milliken (2019), that confirms that most teacher preparation programmes allocate less time to activities aimed at fostering learner management skills in trainee teachers. It could be argued that the behaviour management that teachers have for face-to-face teaching should naturally extend to online learning settings; yet, the dynamics of online interactions can be different, calling for specific teacher training. The training should focus on managing, setting expectations, using positive reinforcement, and dealing with disruptions effectively. Training programmes should incorporate modules on online behaviour management, focusing on setting expectations, using positive reinforcement, and dealing with disruptions effectively. This equips teachers with practical strategies to maintain productive learning environments in digital contexts.

The gaps in digital competencies that teachers claimed to have has an impact on the online learning practice. The gaps reveal that teachers' training programme did not equip them with the competencies they need to effectively navigate the online learning

environment for young learners. The teachers felt that the traditional methods of assessment and engaging learners do not translate seamlessly into online contexts, yet, training did not address this. Teachers felt they should tailor content to learners' cultural context, but lack the skills to do so. This mismatch creates dissonance where teachers expect to be fully prepared for professional practice, yet their training left them unprepared.

Other findings were based on the interview question on challenges faced in integrating online learning in resource-scarce early learning settings. The findings revealed that as technology continues to take the centre stage in the educational landscape, it is presenting both opportunities and challenges to early childhood settings, especially those in underserved communities, the challenge being the digital divide. The study underscored the significance of recognising digital equity as a systemic issue which is embedded in broader systemic inequalities. It is therefore imperative to address digital injustices in young learners' education. ECD learners were identified as a forgotten demographic. To address this, there is need for intentional commitment from different stakeholders to develop and implement policies for young learners' digital access.

Observation data confirms the findings from the participants. The researcher witnessed a high level of digital devices lacking in most sites of the research. The study findings align with prior studies, which affirmed that less privileged communities lack infrastructure and devices for online learning. For instance, a study by Aditya ...et al. (2022) confirmed that the use of online learning in early childhood settings is hindered by limited access to technology. A similar view emerged from Nurkolis, Edy and Yuliejantiningih (2020), who proclaim that the limited availability of supporting facilities and infrastructure, such as internet access or Wi-Fi, hinders access to online learning by young children in disadvantaged communities. This extension of disadvantage to the technological space makes it difficult to see technology as a right. How can technology be a right in an environment where some sectors of the global population have no arsenal needed to navigate the online learning environment? Instead, a new learning poverty emerged from the limited online learning conditions that shape children's learning. It is therefore critical to understand the right spaced framing of technology in these marginalised communities as a way of positioning these communities on the path that brings hope and opportunity for continuity of learning now and in the event of a future world crisis. Governments and NGOs should therefore

establish device subsidy programmes and community-based digital hubs to ensure equitable access to technology for young learners.

Although limited access to digital devices surfaced as a significant barrier to the utilisation of online learning, it is not the only barrier to online learning. Both observed and interview data unveiled that limited access to electrical power and the internet hinders the successful implementation of online learning. Most schools were found to have no access to power and those with electricity didn't connect it to classrooms. This is worrying since teachers will not be able to use digital devices with young learners to prepare them for learning in the digital age. National infrastructure programmes should prioritise connecting schools to electricity grids and broadband, with rural areas receiving targeted investment to counter urban bias.

In cases where the network is poor and there are no power sources, the use of online learning platforms becomes a pipe dream. One would argue that the network challenges for schools will be a thing of the past soon, since the government launched a GIGA initiative, which aims to install internet at every school, and there are plans to allow satellite-based internet service providers to operate in the country. This is a positive move by the government of Zimbabwe, which is worth noting. However, these opportunities create other gaps which could further marginalise the people in less privileged communities. Having internet installation as emerged in this study doesn't guarantee its use, especially for schools in underserved communities. The Internet needs subscriptions every month, which could be a challenge for poor schools with limited resources. The same will be witnessed when satellite networks are launched. There is a need for schools and families to have the necessary kits to be able to use the network and monthly subscriptions as well. Thus, the satellite-based internet comes with a cost that most families in marginalised communities could not afford. The intended satellite networks are likely to further marginalise remote rural communities, especially in the face of limited government support. To ensure sustainability, the government should take full responsibility for providing free or subsidised internet access to schools and families in marginalised communities, covering both installation and subscription fees.

These findings suggest that the provision of digital learning sits within the broader ecosystem of rural underdevelopment, as it happens within underserved communities

in underserved infrastructure, not only in terms of school buildings, toilets, or digital resources, but also in broader things like water, roads, network, and electricity. The technological problems that marginalised early childhood settings experience are not divorced from broader challenges of underserved communities that they have, but add to the underdevelopment of the rural areas and to the emergence of a new form of marginalisation, which is technological marginalisation. Currently, the world calls to take online learning as a public good and every child's digital right cannot bear fruit if access to digital resources for less privileged communities is not addressed. Policy frameworks should therefore integrate digital inclusion with broader rural development initiatives, ensuring that investments in technology are accompanied by improvements in health, sanitation, and transport infrastructure.

This discussion cannot be complete without linking it to the theoretical lens of post-colonial theory which contest the existences of digital inequalities within African communities. The lack of resources in underserved communities according to the post-colonial theory represents the structural inequalities left by colonial histories. Limited digital infrastructure witnessed in many Global South contexts reflects uneven development trajectories shaped by colonial exploration, making access unequal across urban and rural, rich and the poor. To counter this, decolonising digital education policies is essential, embedding indigenous languages, cultural contexts, and locally produced content into online learning platforms.

One critical barrier to the utilisation of online learning in marginalised early childhood settings, as emerged from the study findings, is a lack of digital skills and competencies. The observed lessons and the sentiments from the participants highlighted the limited digital skills and competencies that characterise teachers, parents, and the learners. The findings align with a study by Nurkolis, Edy and Yuliejantiningasih (2020), which revealed that the implementation of online learning at the early childhood level faces many obstacles; among them is the limited ability of teachers to use online learning platforms. Another study by Holiza (2022) confirms that the ability of teachers is a significant barrier to the effective implementation of online learning in early childhood development. In Fernando and Jain's (2022) opinion, a critical impediment to the successful integration of online learning in early childhood education is the prevalence of digital illiteracy among learners, teachers, and parents. Another study by Pons-Salvador, Zubieta-Mendez and Frias-Navarro (2022) to

examine the relationship between the parents' digital competence and their engagement in children's online learning found that parents with greater digital competence were more likely that their 6-to 9-year-olds were able to use the internet compared to those without digital skills. The study further revealed that parents' digital competence is linked to their level of education, with more competent parents being more likely to supervise their children's internet use and have more knowledge of the online activities that their children carry out. From the literature scanned above, teachers' and parents' digital competencies emerged as more critical in an online learning environment. The assumption here is that the digital skills of learners are developed by teachers and parents. An educational setting or home with teachers and parents who lack digital skills cannot be expected to have learners with technological skills.

Although the teachers' and parents' digital competencies emerged from many studies as one of the key enhancers of online learning, the competencies of learners are also necessary. The limited digital skills and competencies that learners from both underserved and affluent communities have stand as barriers in coping with classroom digital activities (Vuorikari, Velicu, Chaudron, Cachia, and Di Gioia, 2020). Su and Yang (2024) in their study reported that the digital competencies of young children are vital to enable them to use emerging technology for learning, yet such competencies receive less attention from teachers, parents and the Education Ministry (Havu-Nuutinen, Kewalramani, Veresov, Pontinen and Kontkanen, 2022). To address this, comprehensive digital literacy programmes should be designed for teachers, learners and parents, ensuring they acquire the skills necessary to guide children in online environments. Training efforts should therefore be holistic, targeting learners, parents, and teachers simultaneously, with funding allocated to build digital skills across all three groups. A multi-sectoral approach should be adopted, where government, NGOs, and private stakeholders pool resources to enhance digital skills development for entire communities.

From the post-colonial perspective, teachers and learners lack digital skills because of the colonial policies that deprive the colonised learners from access practical education. The education system that the white settlers brought were bookish and lacked practical orientation. Even, in post-colonial societies, digital educational content continues to originate from Western contexts and such content do not reflect local

realities, reinforcing dependency and cultural marginalisation. This creates a challenge where digital learning reproduces colonial hierarchies instead of dismantling them. To counter this, policies should promote the development of locally produced digital content and integrate indigenous knowledge systems into online learning platforms. This would dismantle colonial hierarchies and ensure cultural relevance.

However, these findings must be understood with nuance. Not all teachers experience digital skills gaps in the same way. Teachers in urban schools with better infrastructure may have more exposure to technology, while those in rural or resource-scarce settings face greater challenges. Similarly, younger teachers even in marginalised communities may be more digitally confident compared to older colleagues, whose training predated widespread ICT integration. Context therefore shapes perceptions and readiness. Training programmes should be differentiated, offering tailored support that considers teachers' backgrounds, school contexts, and prior exposure to technology.

Findings also revealed that negative beliefs that the different world population may hold regarding online learning with young children hinder access to teaching and learning delivered in digital formats. There is a global concern that the use of technology with young children has an adverse impact on their safety and health, as confirmed by a study by Todd and Medina (2019), whose findings highlighted a surge in public anxiety and concern about the potential and degree to which the use of the internet is endangering young children. Another study by Muppalla, Vuppalapati, Reddy Pulliahgaru, and Sreenivasulu (2023) proposed that young children's strong reliance on screen devices has raised serious public health concerns as it might affect their cognitive, linguistic, and social-emotional development. Adhikari (2021) maintains that despite the benefits that screen media offers; its use has been correlated with negative psychological, physical, and social health outcomes. Furthermore, excessive use of technological gadgets was found to be associated with various health risks such as obesity, unhealthy eating habits and mental health issues (Priftis and Panagiotakos, 2023). To address these anxieties, national ECD policies should introduce age-appropriate screen time guidelines, limiting continuous exposure and integrating offline play-based activities. Awareness campaigns should be launched to educate parents and teachers about safe digital practices, highlighting

balanced approaches that mitigate health risks while preserving the benefits of online learning

The world's position and perceptions on the use of digital learning in early childhood shape its adoption. If the world acknowledges the benefits of online learning and sees it as appropriate for young learners, teachers will align their teaching practices to incorporate technology-based instruction. In cases where online learning is seen as a hazard to children's growth and development, its support from teachers and parents will be limited. Mehta, Morris, Swinnerton, and Homer (2019) assert that as technology continues to evolve and be part of our daily lives, the influence of beliefs on the adoption and utilisation of technology becomes more and more significant. A similar sentiment emerged from a study by Alberpla–Mulet, Iglesias-Martinez, and Lozano-Cabezas (2021), whose findings revealed that the beliefs that teachers hold have an influence on their classroom practices. Scherer and Teo (2019) in their study established that one of the critical determinants for using digital resources in the classroom is teacher beliefs. Juggernath and Govender's (2020) study revealed that external factors, such as the availability of digital resources, play a lesser role in promoting the utilisation of online learning, and they identified beliefs as crucial enablers for digital learning adoption. Literature has unpacked how beliefs impact access and support that young children get from different stakeholders. It is therefore important to address the perceptions that people have concerning internet use with young learners (Howell and Brossard (2021).

Teachers' concerns and beliefs about digital learning influence their acceptance and use of such emerging technologies. The Technology Acceptance Model (TAM), which Davis (1989) proposed, can be used to understand how digital skills and competencies for learners, teachers, and parents, as well as beliefs, can hinder the adoption and use of online learning. According to the Technology Acceptance Model, the acceptance and use of technology are determined by the perception of the usefulness of technology and perceived ease of its use. Teachers, parents and learners with limited opportunity to use digital devices may never appreciate the ease and benefits of technological facilities. Individuals with limited skills in using a device normally resist its use. Apart from perceived ease of using digital devices, teacher and parental beliefs also determine technology acceptance. The study established that learners, teachers, and parents had limited digital skills and some had negative beliefs concerning the

use of online learning with young children. Limited access to resources, lack of skills and competencies to navigate digital teaching and learning platforms and health concerns may lead individuals from marginalised communities to have negative perceptions about online learning. To shift perceptions, governments and institutions should showcase success stories of online learning in similar contexts, demonstrating its feasibility and benefits. Teacher training should also include modules on digital ethics and child safety, reinforcing confidence in online platforms.

Literature confirms the worries and concerns that people have regarding online learning in early childhood education shapes the use of digital tools in the classroom. Having concerns doesn't necessarily mean teachers and parents do not support digital learning for their children; it only affects their decisions on whether to adopt digital learning or not. From the lenses of cognitive dissonance theory, teachers who understand the importance of online learning, yet worry about health concerns of online instruction, will suffer from cognitive dissonance.

The critical challenges and concerns that the people in marginalised communities raised could be explained through post-colonial theory as well. From a Spivakian (1988) lens, postcolonial theory is a movement aimed at bringing the concerns of the voiceless to the table. Spivak referred to the people who are marginalised and cannot speak as the "Subaltern." She believed postcolonial theory is one way of ensuring the representation of people in the periphery of community life and intervening concerning colonial-based challenges that confront them. Spivak's thinking supports the undertaking of research in underserved communities to understand their digital learning challenges so that specific interventions can be provided. The current study explored the experiences of marginalised people by sincerely listening to their concerns, which they think stand as barriers to their children's digital learning. Their voices were captured and presented in this chapter. This positions the study as one of the post-colonial studies aimed at improving the educational opportunities for learners in disadvantaged communities. The study underscored the significance of taping the voices of the margins and making digital intervention strategies tailored to their narratives.

Actor-Network Theory (ANT) provided a powerful lens for interpreting the findings in this chapter because it allowed me to see online learning access not simply as a

human-centered issue but as the outcome of complex interactions between human and non-human actors. In this context, teachers, parents, learners, policymakers, and community leaders are actors whose agency is intertwined with that of digital devices, electricity grids, internet connectivity, training modules, and policy documents. For example, the finding that teachers lack digital competencies can be reframed through ANT as a breakdown in the network with teachers, training institutions, and digital tools failing to align, producing gaps in practice. Similarly, the lack of infrastructure in rural schools illustrates how roads, electricity, and broadband act as non-human actors that either enable or constrain the network of online learning. The discussion of parental digital literacy also benefits from ANT, as parents, devices, and cultural beliefs form a network that determines whether children can meaningfully engage in digital learning. Even policies such as BEAM or the ICT strategy can be interpreted as actors within the network, whose effectiveness depends on how they interact with schools, communities, and technologies. By applying ANT, the chapter moves beyond attributing marginalisation solely to human shortcomings and instead highlights how the assemblage of actors—human and non-human—creates conditions of inclusion or exclusion. This perspective underscores that sustainable solutions require strengthening the entire network which involves aligning teacher training with digital tools, ensuring infrastructural actors like electricity and broadband are reliable, embedding cultural actors such as indigenous languages into online content, and securing policy actors through enforceable funding and monitoring mechanisms. In this way, ANT enriches the interpretation by showing that digital exclusion in early childhood education is not the failure of one group but the result of fragile or incomplete networks that must be reconfigured for equity.

7.7 Conclusion

In this chapter, major themes that were derived from the findings and analysis of data were presented and discussed. In the discussion, the concept of marginalisation was explored, and in terms of online learning, it was seen as a socially embedded process of exclusion, depriving some learners of the right to benefit from the advantages that digital learning brings. Marginalisation was framed as an outcome of structural injustice that affects mostly those living in remote rural areas, the disabled, and women. It emerged from the discussion that participants had an experiential

knowledge of how marginalisation manifests in life. This awareness of the various groups that marginalisation affects helps in providing interventions that are locally grounded and assist in the development of a strong policy framework tailored to the identified marginalised groups.

The chapter also discussed teachers' digital competence gaps and training needs. It was discussed that teachers have various digital needs, which, when not addressed, stand as barriers to their participation in learners' online learning. These include a lack of familiarity with computers and digital tools, insufficient learner management skills, content creation, and limited capacity to motivate, engage, and assess young learners during online learning sessions. The identified gaps reflect a broader structural gap in teacher training that needs to be urgently closed. There is a need to reimagine teacher training, tailoring it to the digital needs of teachers.

The chapter concludes by discussing systemic challenges to online learning in marginalised ECD settings. These include infrastructural and resource constraints, lack of coherent policy frameworks, health and safety concerns, as well as stakeholder beliefs. These findings echo global calls for inclusive access to 21st-century skills, including online learning; hence, a permanent solution to the digital challenges is urgently needed.

The next chapter explores the suggested strategies for tackling marginalisation and improving access to online learning for early childhood learners in marginalised settings.

CHAPTER 8

Findings and discussion chapter 4

Strategies for promoting access and support to online learning for marginalised ECD learners

8.1. Introduction

This chapter is the final empirical chapter for the study. It draws insights from the preceding chapters and advances the understanding of complex factors influencing online learning access in marginalised ECD settings. The previous chapter five (5) laid the groundwork for exploring the policy context for advancing online learning in ECD, underscoring the existence of fragmented policy frameworks and a lack of financial support. It revealed that the lack of specific policies tailored to promote access to online learning significantly hinders the achievement of digital inclusion in marginalised communities. Chapter seven (6) presented findings on how teacher beliefs influence classroom practice and willingness to innovate. Chapter 7 then discussed challenges faced by those living in the margins in relation to access to online learning. The current chapter extends the study findings by presenting the participant-driven strategies for tackling the identified challenges to improve access to digital learning for learners in marginalised ECD settings.

8.2 Ideal strategies for mitigating marginalisation

This section focuses on participants' views of sustainable strategies for addressing marginalisation, which is a global concern. Four themes emerged from the study participants: transforming national policies and practices, addressing historical and structural disparities that characterise remote rural areas, and public-private partnerships.

8.2.1 Government will and commitment

DO 2: In my opinion, marginalisation can be permanently addressed through the government's will and commitment. The government needs to rely on

scholarly work or conduct research of its own to offer intervention strategies tailored to the realities on the ground. The reality on the ground is that learners from poor families come to school hungry; they don't have resources for learning, and shifting to online learning is further marginalising them. A national address of these disparities guarantees a sustained provision of essential services to learners from marginalised communities.

SH 2: We can only realise a society without exclusionary tendencies if the government starts treating all the people the same, regardless of variation in geographical location and economic status. In fact, the government needs to apply the principle of distributive justice, which compels the community to give those without resources, who are few and cannot be distributed equally among the people.

Teachers offered the same line of thinking as reflected in the excerpts below:

Tr 1: In my view, without a serious commitment to end marginalisation from the government, marginalisation will remain the national concern. The Free and compulsory education that was developed to provide opportunities for educational access for poor learners can only be a reality if funds are made available for this mission. Similarly, the feeding programme, although a good initiative to ensure every child enjoys a hot meal at school, its reliance in the community

The findings reveal that intentional government, supported by evidence-based policies, is essential in addressing marginalisation and promoting an inclusive society.

8.2.2 Transforming national policies and practices

The findings highlight a compelling agreement among the participants that tackling marginalisation requires fundamental transformation of national policies. Marginalisation was viewed as systemic neglect, and any efforts to address it require a paradigm shift in governance where the government shows commitment to fully address the drivers of marginalisation. Participants highlight the need for developing national policies that promote access to resources for every living individual as evident from the excerpts below:

SH 3: *I think marginalisation can be tackled through government commitment to develop and implement policies that promote access to resources for all*

SH 5: *In my opinion, marginalisation can be addressed by transforming the historic policy culture that created systemic neglect.*

Tr 7: *To truly deal with marginalisation, the nation must move from rhetoric to action, developing specific policies to deal with marginalisation coupled with enforcement strategies.*

The findings underscore the need for comprehensive transformation of national policies guided by the principles of inclusion, equity and proactive state responsibilities.

8.2.3 Addressing historical and structural disparities

It emerged as a finding that marginalisation has colonial roots, and it is necessary to deconstruct the colonial policies and practices, ensuring the re-imagining of policies that foster improved lives for those in the community periphery. Not only is the past blamed for the enduring inequalities, but also neo-colonial practices that failed to address historic legacies. The responses highlight the need for a paradigm shift in governance, one that is committed to inclusive principles through policy reform. Their views are presented below:

SH 1: *Assets that, meaningful redress of marginalisation starts by acknowledging the failure of historical policies and practices.*

SH 2: *extend the argument, stating that marginalisation can only be addressed if an effort is made by the government to eradicate all the colonial practices that created marginalisation.*

DO 1: *calls for intentional dismantling of all systems that promote marginalisation through prioritising the development of inclusive policies.*

Teachers further suggest that:

TR 5: *Marginalisation can only be addressed if the process starts from the national level. The government must show its commitment to end*

marginalisation by employing distributive justice in the distribution of resources. No village should be left behind in terms of access to resources.

TR 2: One way of dealing with marginalisation is to develop anti-marginalisation policies and set aside funds to fight all forms of marginalisation in the country.

The empirical data reveal that marginalisation is both a historic and structurally created phenomenon anchored in both colonial and post-colonial practices. The enduring colonial legacies underscore a systematic failure to sustainably redress historic injustices, necessitating a move to redistributive principles and comprehensive policy transformations. The subsequent discussions build on these insights to map a policy-oriented pathway that promotes inclusive online learning systems in marginalised ECD settings.

8.2.4. Public–private partnerships

The empirical data clearly reflected the significance of public–private partnerships (PPPs) in bringing marginalisation to a dead end. This partnership emerged as a critical engagement for dismantling marginalisation in the context of access to human essentials such as education, digital learning and health. Through partnerships, some gaps in terms of access to educational resources can be closed. The remarks from participants reflected the analysis above:

SH 4: In my view, digital marginalisation can be resolved through a multi-sectoral approach where different ecological systems put their hands together in covering the gaps that the digital divide has created. Thus, the public and private stakeholders need to ensure that the resources for children's education are provided in all areas.

TR 9: I believe that marginalisation can be addressed if the government engages other stakeholders, like the Non-Governmental Organisations and other private players, to assist in resource mobilisation so that no one is left behind.

8.3 Strengthening digital ecological systems to improve access to online learning

Participants were asked to offer their perceptions on what should be done to policies or systems to address the barriers to access to and adoption of online learning in marginalised early childhood settings. Several systems were identified, including the family, the school, the nation, and the teacher training systems.

8.3.1 The family system

The participants identified the family as one of the critical systems that need to be transformed to promote access to online learning for learners in underserved communities. The views from school heads were presented below:

SH 1: *In my view, the parents need to be made ready for the digital learning of their young children. This involves acquiring the right skills needed to assist the child during online sessions and having internet and devices for online learning.*

SH 2: *The government needs to assist families in acquiring electronic devices for online learning. This can be done through free provisions or by giving loans to parents which they pay back in instalments.*

The early childhood teachers were also excited and had the following to say:

TR 5: *In my opinion, the government needs to capacitate schools so that they organise workshops tailored to give parents tips to operate in an online learning environment.*

TR 8: *Most of our parents here are illiterate, and this barrier needs to be addressed so that a family has someone who can walk with the child during online learning, assisting and attending to any troubleshooting.*

TR 9: *I also propose training of parents so that they help in the development of their child's digital skills at home.*

TR 10: *In my opinion, parents have a big contribution to their children's readiness for online learning. They need to buy them the gadgets or allow them to use the available gadgets under their supervision. For this reason, all parents*

with young children need to be trained on basic computer skills so that they can assist their child at home.

Data from the study participants noted the significance of the family as a system for making online learning a reality in marginalised early childhood settings. The participants collectively highlight the need to equip the family with digital resources, ensuring that the home is an enabling environment for online learning. The findings show that families, especially those in marginalised communities, face economic constraints that limit them from acquiring crucial devices for online learning. It emerges that equipping parents with digital literacy skills is critical for improving young children's access to online learning. The findings of the study propose policy frameworks that support government-led initiatives for expanding digital learning in resource-scarce communities.

8.3.2 School System

The school is the other critical system for improving access to online learning for learners in marginalised early childhood settings. The school needs improvement in terms of infrastructural growth, teachers' digital skills, and learners' digital skills. Suggestions were made on how school-based gaps would be addressed, as shown in the verbatim below:

SH 1: The school system needs to be a digitally ready system for promoting online learning for young children. This can be achieved if schools are assisted to connect to power and the internet, and secure digital devices for online learning purposes.

SH 2: In my opinion, the school as a system needs to have teachers and learners with digital skills. For teacher-based skills, training should be organised where experts are engaged to teach them how to navigate online learning spaces. For learners, the school as a system needs to have a culture that embraces the integration of ICTs in ECD education. This helps in developing learners' digital skills.

DO 1: In my view, the government must ensure all schools, especially those in marginalised communities, have resources for online learning. School digital

systems can be strengthened if policies are developed that compel the government to take every school to great digital heights.

DO 2: Teachers' digital competency matters in any system responsible for preparing young children for digital learning. For this reason, in-service teachers must be staff developed on best practices for developing young children's digital literacy.

The suggestions to improve the school system from the lenses of the teachers are highlighted below:

TR 3: In my opinion, those in the realm of power in schools must ensure that online learning is integrated into the curriculum. As a school system, the tendency to shift to online learning to address a crisis and neglect it soon after will not address the online needs of the nation especially those in marginalised communities.

TR 5: Teacher training institutions need to be thorough in the manner in which they prepare prospective early childhood teachers regarding their digital competencies. No student teacher should be allowed to graduate without demonstrating competencies in using computers in general and online learning platforms in particular.

TR 9: School heads need to motivate teachers to seek teacher professional development in the area of computers and provide incentives to those who upgrade their qualifications. Schools also need to ensure there are enough computers at school so that teachers can equip learners with the digital skills they need for online learning.

TR 11: The school is the immediate support system for young children's online learning. Schools need to be resourced with power and internet connections made available at each school. To make internet access sustainable for poor, remote schools, the government must assume the role of installing and subscribing the internet for schools.

TR 12: In my opinion, the school systems characterising the remote rural areas currently lack resources for online learning. To improve access to digital

resources, school heads, the managers in the Education Ministry, the Government, and its partners have a critical role to play. Resources need to be mobilised for schools so that meaningful online learning or the preparation for online learning can take place.

Various recurring themes emerged from participants' views regarding what can be done to the school system to improve access to online learning for learners in marginalised communities. These themes include the need for improving the digital infrastructure of the schools, ensuring that schools are connected to power and the internet. The data from participants reveal the need to make schools digital hubs where every child has the opportunity to develop digital skills. The government needs to proactively act towards achieving access to resources, especially for those in marginalised areas. The other theme from participants' data is the need to equip every teacher with online learning skills. Thus, teacher training is important in ensuring that teachers have the capacity to operate in an online learning environment.

8.3.3 National systems

Findings in this study show that access to online learning cannot be achieved without improving national systems. An improvement made at the national level towards access and support to online learning offers a great opportunity for online learning adoption, especially for disadvantaged places with limited access to resources. Several suggestions were put forth on ways to improve our national processes and practices regarding online learning. The following excerpts reflect responses of the school heads:

SH 1: In my opinion, the Ministry of Primary and Secondary Education, as one of the critical elements of the national system responsible for the education of young learners, needs to ensure the availability of digital infrastructure in schools. They should ensure that online learning is on the national development agenda and funds are set aside for promoting access to digital resources by those from underserved communities.

SH 2: In my view, the nation should employ an open-door policy and ease of doing business for donors and other private companies to secure funding for

online learning at the ECD level. In addition to making use of donors, the government needs to offer grants or subsidies to schools and families to purchase digital devices and subscribe to the internet.

DO 1: In my opinion, the government needs to allocate a bigger portion of money on the national budget for fighting digital disparities currently obtaining in our communities. Thus, at the national level, we need to transform our development focus areas to include digital learning.

DO 2: The nation should develop and implement a national online learning policy that prioritises access to digital learning for learners in marginalised settings. The policies must promote the provision of digital resources to schools, connecting schools to power lines and the internet, and for teacher capacity development. The policy frameworks must show how the government will interact with network providers, power utilities, and tech companies to ensure access to resources at the village level.

Teachers offered similar perspectives as reflected below:

TR 1: In my view, there is a need for the nation to adopt network systems that can offer lasting solutions to network challenges, especially in remote rural areas. The government must consider allowing satellite networks such as Starlink that other nations are using to bring a lasting solution to weak network coverage in remote rural areas.

TR 3: In my view, there is a need for a national will to address barriers to access to online learning in marginalised early childhood settings. The will can be reflected through government investments in securing digital devices for schools, connecting schools to electricity and the internet, and sending teachers for digital reskilling.

TR 7: The government-stakeholder ties need to be strengthened, with the government extending an open-door policy to donors so they assist in improving digital infrastructure in remote rural areas.

TR 9: The nation needs to have policies aimed at moving the online learning initiative forward. The policies must be accompanied by funds for the

implementation phase. It is good practice for the nation to develop monitoring mechanisms to check the outcomes of implemented policies,

TR 11: I think members of the parliament need to move a motion that compels the government to include digital learning in the national budget. This will go a long way in providing the digital resources that learners in marginalised communities desperately want.

It emerged from several participants of this study that access to online learning can be coordinated at the national level. Data shows that having national policies prioritising access to online learning for learners from underserved communities is essential. The policies need to allow for the inclusion of online learning in priority list for government spending.

8.3.4 Teacher training systems

In responding to what can be done to teacher training systems to address teachers' online learning gaps and improve access to online learning, participants offered multiple suggestions, which are presented below:

8.3.4.1 Digital literacy development for lecturers

Participants stressed the importance of continuous professional development for lecturers with a particular focus on online instruction techniques. This was seen as a significant way of positioning them as a key reference point in developing prospective teachers' digital competencies. Participants suggest the need to invest in the re-skilling of lecturers as part of the process necessary to develop graduates with digital competencies. The participants in their response stated the following:

SH 1: All faculty members of universities and colleges need to have digital literacy so that they become informed and practical ambassadors of digital learning.

SH 2: In my opinion, a well-trained online learning prospective teacher is one who passes through the hands of a well digitally prepared and competent team

of lecturers. Graduates' readiness to use online learning platforms emerges from the foundation that the lecturers set for them.

The feedback that emerged from the teacher participants further confirmed the significance of equipping lecturers with digital literacy skills. The significance of this is expressed in the following excerpts:

TR 4: I recommend re-skilling of lecturers so that they become effective implementers of online learning. Some of the lecturers have limited competency in using computers, let alone online platforms.

TR 12: I propose that higher learning institutions should invest in improving the digital skill level of their lecturers so that they effectively prepare prospective teachers for a digital world.

The responses of the participants reveal their awareness of digital gaps that characterise most lecturers in institutions of higher education, which impacts their role as educators for prospective teachers.

8.3.4.2 Digital literacy development for in-service teachers

The generated data revealed that although the core business of teacher training institutions is to prepare pre-service teachers for the nation, there is a need to prepare short courses for in-service teachers so that they equip them with the skills needed for digital teaching and learning. To address the digital skills gap among the in-service teachers, school heads suggested that:

SH 1: Our in-service teachers have limited digital skills. To address this gap, all teacher training institutions need to offer cheap short courses on the use of digital tools and devices. As school heads, we are committed to sending our teachers to this training.

SH 6: We will be pleased if all teacher training institutions take advantage of the government's teacher capacity development programme to improve our teachers' digital skills. It needs to be mandatory that each institution offers the reskilling exercise, and every teacher, especially those teaching early childhood, go first. A house is strong by its foundation.

TR 2 shared the same sentiments as school administrators. She echoes that:

TR 2: *In my view, teacher training institutions need to have outreach programmes where teachers are reskilled on the use of technological devices and online learning tools funded by both schools and the government.*

The responses indicate school management's commitment to support teacher professional development. This reflects the willingness of the management to invest in resources that promote online learning at the early childhood level. The responses suggest that it is critical to leverage external expertise for digital literacy development among teachers. It emerged from the participants' responses that in-service teachers' digital skills need to be enhanced through ongoing professional development. Contemporary early childhood education hinges on how competent in-service teachers are in utilising online learning platforms with early years learners. The extent to which teachers are ready to weave online learning tools into their teaching practices considerably influences the learning outcomes of young learners in an online learning environment.

8.3.4.3 Reviewing computer studies content and pedagogy

It emerged as a finding from the school heads that there is a need to update the curriculum for higher learning institutions to make it the best fit for preparing prospective teachers for a digital world of teaching. They mentioned that the curriculum needs to be changed so that it gives teachers the opportunity to be familiar with online learning platforms and how to execute them with young learners. The excerpts below show the sentiments of the school heads:

SH 2: *The computer module that every student at a teacher training institution does should be reviewed to be of high quality and meet prospective teachers' online learning demands*

SH 3: *Well, the curriculum needs to be changed so that it equips teachers with skills for engaging young learners during online learning*

SH 4: *My thinking is that the teacher training curriculum needs to expose trainee teachers to the skills necessary to effectively prepare young learners for an*

online learning environment. They also need practical assistance on how to effectively deliver lessons online to young kids.

DO 1: In my opinion, the content of computer modules at higher institutions of learning needs to change to tailor it to the skills teachers need in an online learning environment, including learner engagement and development of online learning content.

DO 2: The curriculum at teacher training institutions needs to be transformed so that it offers practical experiences of using online learning platforms, teaching student teachers how to effectively engage learners and assess them as they learn online.

The responses from teachers resonate with what the school heads and district officials suggested. The teachers expressed a need for training in basic computer skills. They highlighted the need to understand how to operate a computer and navigate online learning tools. Their responses are presented below:

TR 1: From my perspective, teachers need training in developmentally appropriate ways of engaging young learners in digital learning. Teachers also need training on how to assess young children online. This, therefore, calls for the transformation of the curricula at teachers' colleges to reflect these new demands of a teacher in a digital era.

TR 5: There is a need for a re-look at the curriculum for higher institutions of learning to check if they are adequately addressing teachers' skill gaps, such as how to motivate young learners to keep focused during online learning, and to carry out assessments of learners' growth and development using online learning.

TR 9: Teachers need to have competency in handling student behaviour during online learning and to create online learning content appropriate for young learners. Since teacher training programmes currently do not emphasise these skills, there is a need to include them in the curriculum.

TR 11: In my opinion, teacher training institutions need to be ready to offer a curriculum that aligns with the online learning demands of prospective early

childhood teachers to prepare them for teaching pedagogies involving online teaching and learning.

The responses from the participants indicate that they are aware of the digital literacy skills gaps that may hold them back regarding their role as facilitators of online learning in early childhood settings. Their responses revealed a gap in teacher training as well, since most of them complained of a lack of exposure to practical computer studies at colleges. The responses of the participants bring to light the existing gaps in teacher training that need to be closed so that graduate teachers leave school with digital skills as exit profiles. The responses of the participants revealed that the current teacher training is not doing enough to prepare teachers for work in an online learning environment. The issue of learner management as a gap in teachers that needs to be addressed emerged from teachers themselves, who posit that they need skills of controlling and handling young children as they do online learning. This underscores the need to comprehensively review and update the curriculum so that it reflects the digital skills required in today's digital world.

8.3.4.4 Teaching practice review

Another area in the teacher training process that needs improvement to address the digital skills gaps in teachers is to use the practicum experiences as an avenue for learning use of online learning tools. Digital practicum experience for student teachers was emphasised by the school heads who advised that student teachers need to be assessed teaching young learners using online learning platforms. The following responses highlighted the need for assessment in online teaching:

SH 3: During the Teaching Practice period, I propose that every student teacher be given an opportunity to teach young children using online learning platforms under the supervision of an expert lecturer.

SH 5: I also recommend assessment of student teachers as they practically teach young learners online.

Teachers offered the same thinking. They suggested that higher institutions of learning need to review teaching practicum experiences for trainee students to focus more on

digital teaching and learning. The responses from TR 2 and TR 10 reflect participants' sentiments:

TR 2: I suggest that half of the teaching practicum experience for student teachers should be on teaching learners using online learning tools

TR 10: I recommend that the assessment tool that lecturers use when student teachers are out for teaching practice should include online learning aspects. In addition, I recommend that when students do presentation assignments, they should be allowed to create links, inviting peers and the lecturer, and then present online.

The responses call for an update in the practicum experience for student teachers, ensuring that the experience they have improves their early childhood online learning teaching. This suggests a need to transform the manner in which students' teaching practicums are executed, putting more focus on improving student teachers' online teaching. Use of hybrid teaching and learning was identified as one way of teaching to enhance digital learning instruction in students.

8.3.4.5 Students as content creators

The other important issue that school managers raised as the way forward to address the digital gaps of teachers was to ensure that student teachers do not only consume but also create online content, as seen in the response below:

SH 1: In my opinion, teacher training institutions need to prepare their students to be creators of online learning content that can be used in schools.

SH 3: Student teachers must be given practical assignments involving online learning content creation.

The issue of content creation was also mentioned by one teacher, who highlighted that:

TR 5: I suggest that part of the assignments that student teachers do should be on producing relevant and appropriate digital content which pre-schools can use.

The suggestion above underscores the important role those higher institutions of learning hold in the online learning environment, that of ensuring the availability of age-appropriate content for young learners. The suggestions imply that lecturers at higher institutions of learning should give students assignments on online content creation and the best ones should be sent to the Ministry of Education for consideration for use in schools. This will improve the quality of online learning when learners are exposed to content made by locals who use local examples and experiences.

8.3.4.6 Infrastructure improvement

One other crucial suggestion offered for teacher training institutions to deal with digital gaps in teachers was to improve the digital infrastructure of such organisations. The school managers suggested that the current number of computers at Colleges and Universities is not enough for the student enrolments. Their views are represented below:

SH 1: I suggest that Colleges and Universities need to increase the number of computers that their student have access to for learning to ensure improved digital skill acquisition.

SH 3: I am of the opinion that more technological resources need to be mobilised to make Computer Labs at teacher training institutions rich so that every student teacher has access to digital resources.

Apart from solely addressing the resource gap on their own, participant DO 1 suggested that the government must assist universities with resource provision, as reflected below.

DO 1: I propose that the government needs to support higher institutions of learning in mobilising resources that will make the preparation of prospective teachers in universities a perfect job.

Teachers also suggested that institutions of higher learning need to reduce the student-computer ratio by buying more computers and making the computer usable by improving the institution's internet. This is reflected in the excerpts from four participants below:

TR 3: *I recommend an increase in computer devices that Colleges and Universities have in their Labs to give access to all trainee students. Students are graduating without computer skills as a result of limited devices*

TR 12: *I also encourage them to acquire more computer resources so that every student teacher has an opportunity to acquire computer skills in a practical way.*

Apart from improving the number of computers at the institution, heads of schools suggest the need to strengthen network coverage as seen below:

SH 4: *I recommend an increase in network strengths at Colleges and Universities to improve digital literacy for every graduating student.*

This is in line with Tr 6's suggestion that:

TR 6: *I have a single recommendation that of improving internet strength at institutions of higher education, as poor internet limits the use of computers and online learning platforms.* The responses reveal the aspect of the network as a significant player in teacher training, especially for digital learning.

The voices of the participants above suggest the need for higher education organisations to budget and invest more in technology. This implies that the lack of digital facilities hinders the effective preparation of student teachers for working in an online learning environment. The responses revealed that digital provision in institutions of higher learning is in urgent need of more investment. This applies to computers, ICT resources, and network facilities. This means that colleges and universities ought to invest in digital facilities, as well as possibly the government, to deal with the problem.

8.3.4.7 Digital literacy frameworks for graduates

It emerged as a management perspective that there is a need for both institutional and nationally based policies regulating the preparation of teachers with regard to the digital component of their courses. School heads suggested the need for policies that compel every student to graduate after attaining a set of skills necessary for working

in an online learning environment. The following excerpts reveal what participants offered:

SH 1: *I suggest that teacher training institutions need to have policies that compel every student to attain and show some level of digital literacy before graduating.*

SH 3: *In my opinion, the government may come up with regulations on the nature of the graduate teacher Colleges and Universities are expected to produce, giving them some digital skills competencies that one has to showcase before being allowed to graduate.*

Responses from school heads are in line with responses that emerged from the teachers. Teachers needed the teaching practice policy that compels trainee teachers to teach some of their lessons using online learning platforms, as reflected in the verbatim below:

TR 7: *I encourage universities and colleges to train teachers to have blended learning policies so that student teachers get an opportunity to use online learning during their studies, and it will be easy for them to use such platforms as they teach young learners.*

The participant's responses suggest a shift away from conventional face-to-face methods of teaching to instructional approaches that cherish a combination of digital learning and traditional classroom-based learning. Another crucial finding of this study was the need to develop policies for higher institutions of learning tailored to ensure that trainee candidates graduating from universities have a high level of digital competencies. University policies play a pivotal role in shaping the educational landscape and can mandate the acquisition of digital competencies by all students.

8.4 Discussion of themes

The systemic themes that emerged from the data are presented below:

8.4.1 The family system

Data from the study participants expressed the significance of the family as a system for making online learning a reality in marginalised early childhood settings. The participants collectively highlight the need to equip the family with digital resources, ensuring that the home is an enabling environment for online learning. This aligns with the perspectives of Lewis, Howard, Verenikina and Kervin (2023) that parents shape their children's digital experiences. Children exposed to technology at home are likely to be digitally ready than those without this opportunity. This aligns with the broader notion that early exposure to online learning tools at home assist in improving children's ability to navigate online learning avenues.

While this finding is consistent with ecological theory, it risks oversimplifying the role of families by assuming that access alone guarantees readiness. In reality, socio-economic constraints mean that even when devices are available, parents may lack the literacy or time to support children effectively. This suggests that interventions must go beyond device provision to include parental training and ongoing support. Moreover, the reliance on Western models of digital parenting may overlook cultural differences in caregiving practices in Zimbabwe and other Global South contexts.

The findings show that families, especially those in marginalised communities, face economic constraints that limit them from acquiring crucial devices for online learning. Such individuals lack the socio-economic capital needed to provide resources to children. The lack of socio-economic capital by families in marginalised communities reflects the existence of a digital divide where disparities exist in terms of access to digital learning. This aligns with Ersoy (2023)'s offering that families from low-income families have economic constraints limiting their capabilities to access quality educational resources. From the participants' lenses, this could be addressed through a shift towards policy frameworks that promote equitable access to online resources. The findings emanating from this study align with global discussions on digital equity, where equal access to online learning resources is essential. This is reflected in OECD

(2023)'s working paper number 299 which stipulates that digital equity and inclusion is a global concern. The findings of the study propose policy frameworks that support government-led initiatives for expanding digital learning in resource-scarce communities. The government should be seen rolling out device subsidy programs and forming partnerships with the private sector with the aim of providing financial assistance to families where digital resources are limited.

While subsidies and loans are promising, they may not be sustainable in economies with limited fiscal capacity. There is also the risk of elite capture, where better-off families benefit disproportionately. A more nuanced approach would involve community-based distribution models and monitoring mechanisms to ensure equity. Furthermore, the emphasis on government provision overlooks the potential role of grassroots organisations and local innovation in bridging access gaps.

In most Western countries, governments are seen to be in the forefront of putting measures that address the digital divide, as reflected in a study by McCall, Duncan, Wadsworth, and Gallardo (2024), where the American government was cited as investing in access to digital resources for families. From the lenses of Bronfenbrenner's ecological theory, the family operates as the micro-level entity responsible for assisting the child to navigate the online learning environment; hence, it should be supported to be ready for this important role. In chapter 3, Bronfenbrenner's theory assumes that access to digital learning in underserved communities is influenced by multiple systems (Bronfenbrenner and Evans, 2000), the family being a critical micro level institution critical for online learning environments.

Participants voiced the need to train and make caregivers who are part of Microsystem of Bronfenbrenner's ecological theory ready for online learning. It emerges that equipping parents with digital literacy skills is critical for improving young children's access to online learning. The study's emphasis on parental digital literacy contributes to the discussion on digital parenting, which places parents on the centre stage of children's online learning. From the perspectives of Kushwaha and Shonak (2025), there are emerging roles for parents in the digital era, and parents should be made resourceful to meet the demands of their new responsibilities. The data make it clear that parental training programmes are crucial to online learning access for young learners. The study findings also contribute to the emerging discourses on the need

for digital school readiness in the contemporary digital world. A lack of digital skills among family members would retard young children's navigation and engagement with online learning tools. The success of online learning depends on family members' support at home, hence the need to equip them with digital skills. The parental digital skills gap needs to be addressed through training programmes tailored to developing children's immediate caregivers' basic computer skills. This aligns with the research findings by Vanek and Goumas (2021), which highlight the significance of incorporating digital literacy into programmes tailored for families. The need to equip parents with digital skills emerged as a recurring theme, with the government identified as the sponsor for the training. TR 5 made a proposal that the government needs to capacitate schools so that they organise training workshops tailored to equipping caregivers with the necessary skills. Parents need such skills to ensure that they supervise their children's online learning activities and enhance their preparedness for technology use (Rodriguez and Liu, 2023). It is therefore necessary to actively involve parents in digital learning processes, making them understand how to navigate online learning tools and provide the right guidance to their children. There was a suggestion that the government needs to assist parents to secure the devices through free provisions of the gadgets or by giving loans to them, which they pay back in instalments. According to McCall, Duncan, MacDermid Wadsworth, and Gallardo, (2024) and Correa, (2024) families need help because they experience challenges in securing and subscribing to high-speed internet services. This suggestion highlights the economic barriers caregivers face in securing digital resources.

8.4.2 The school system

Participants identified teachers as crucial actors for increased access to digital resources within the school system. The study findings align with the global discussions on teacher digital competence as advocated by Redecker's (2018) European Framework for digital competence of teachers, Mishra and Koehler's (2006) Technology Pedagogical Content Knowledge (TPACK) framework, and UNESCO (2018)'s ICT competence framework for teachers identified in chapter two. These models underscore the importance of teacher training in improving young children's access to online learning. Through training, teachers develop digital literacy skills that assist them in supporting young children's online learning. As schools promote digital

access, they will be contributing to the attainment of Sustainable Development Goal 4, which seeks to promote inclusive and equitable education for all learners (UN, 2015). It is critical to acknowledge that while teacher competence is undeniably important and provision of training critical, teachers should not be portrayed as passive recipients of training rather than active agents of change. Teachers' beliefs, attitudes, and contextual challenges significantly influence their adoption of digital tools. For instance, teachers in rural schools may resist digital integration if they perceive it as incompatible with play-based pedagogy or if infrastructural support is lacking. Therefore, professional development must be participatory, allowing teachers to co-design training modules that reflect their realities.

An improvement done for teachers and by teachers in an online learning environment adds to the overall effectiveness of the school system. Their involvement is critical for advancing online learning initiatives at the ECD level. However, the adoption of online learning in early childhood requires teachers to have both digital competencies and the ability to effectively integrate digital tools into practice (Yopi, 2024). According to the findings of this study, teachers are not only facilitators of learning but also key enablers of digital learning; however, most of them lack digital skills. This has an impact on their capacity to prepare young children for online learning (Farisia and Syafii, 2024). Addressing this digital gap calls for urgent attention as it impacts access and support for online learning in marginalised early childhood settings. To bridge this gap, in-service teachers need to undergo Continuous Professional Development (CPD) to acquire best practices for engaging young children with digital tools as recommended by SH 3 and supported by literature (Hartle, Bales, Gardner, MacLeod, DeFluri, and Ehinger, 2021). The study highlighted the need for early childhood teachers to enrol in professional development programmes so that they gain skills necessary for using information and communications technology (ICT) intentionally with young children. This underscores the need for the Ministry of Education and the government to provide funding and flexible schedules so that teachers have money and time for professional training. This aligns with what emerged from data, especially the recommendations by Ohlin (2019) that underscore the need to support teachers to pursue programmes that enhance their digital skills and teaching. This role for the government to finance teacher training and re-skilling of in-service teachers presents yet another challenge for governments with strained economies. Nevertheless,

financial support from the government towards access to digital resources in marginalised communities is important.

Apart from the financial support, the study revealed the need for school management, the Ministry of Education, and the Government to reward those who pursue professional development in the field of digital learning. This highlights the significance of rewarding members who take the time to improve their qualifications. This mirrors the suggestion given by Mogboh, (2025) who echoed that while financial support is important, non-financial motivational tools and rewards, such as promotions, are more effective in persuading teachers to seek professional development training.

Beyond improving teachers' digital competencies is the resourcing of schools. The data from participants reveal the need to make schools digital hubs where every child has the opportunity to develop digital skills. This is a systemic approach to achieve digital equity where schools provide not only learning opportunities but also act as centres for online learning engagement. The positioning of schools as digital hubs aligns with global initiatives like UNICEF and ITU (2019)'s Giga Project, which seeks to expand digital learning by connecting every school to the internet. By emphasising the need to improve access to resources for schools, the study aligns with global debates on addressing the existing digital divide within the communities (United Nations-Habitat, 2022). The government needs to proactively act towards achieving access to resources, especially for those in marginalised areas. The government needs to enact policies and have partnerships with private players to support schools in accessing digital resources as a way of strengthening the integration of online learning in underserved communities. This data contributes to the argument that policy-driven approaches are needed to achieve digital inclusion in remote rural areas by Wagg and Simeonova, 2021). The study reinforces the argument that digital inclusion stems from an investment made towards school infrastructure.

School systems won't be ready for online learning in the face of limited digital resources. There is a need for the government and its partners to improve school infrastructure, particularly in access to network and power resources (Navarro, 2022). It is, however, a challenge for the government to provide digital resources to all schools due to struggling economies. Having strong policy frameworks that compel schools to use a hybrid mode of teaching and learning could make it easier for schools to

implement online learning in their schools. The strengthening of online learning policies assists in improving access to online resources by learners in marginalised early childhood settings.

8.4.3 National Systems

It emerged from district officials, school head and teachers that access to online learning can be coordinated at the national level. Data reveal that having national policies prioritising access to online learning for learners from underserved communities is essential. The national policies need to allow for the inclusion of online learning in the priority list for government spending (Wagg and Simeonova, 2021). This could mean including online learning in national budgets and allowing partners to contribute to the provision of digital resources to schools. The emphasis on online learning as a priority area for the government gained support from world organisations such as the World Bank (2021) and UNESCO (2023). These bodies underscore the need to include online learning in national education policies to ensure sustainable access to digital resources for all learners.

The findings reveal that certain macro-level processes need to be transformed to improve access to online learning for learners in marginalised communities. It emerged that having a powerful national will to move the online learning initiative forward is necessary. This aligns with the adage that “where there is a will, there is a way.” During the COVID-19 pandemic, almost all the governments in the world were showing a commitment to support online learning across all levels of education as highlighted by (Singh, Adebayo, Saini and Singh, 2021). This government is essential in providing tailored solutions to the identified digital gaps. A commitment by the government leads to the development of specific online learning policies. It is therefore critical for members of the parliament to advocate for online learning and push for its inclusion in the national budget. Inclusive online policies are necessary in addressing the digital divide that limits access to online learning tools in underserved communities. It is imperative that policies supporting online learning be available at all levels of children’s educational journey. The lived experiences post-COVID-19 reveal that even governments cannot offer sustained commitments to certain initiatives. There was an

abrupt stop in supporting the use of online learning in schools, and this has an impact on preparing learners for future crises.

It also emerged as a finding that it is critical for the nation to adopt a multi-sectoral approach in addressing digital disparities. This approach involves having open-door policies that encourage donor participation in addressing the digital gaps in today's disadvantaged communities. The collaborative efforts of network and power companies were found to be crucial for ensuring comprehensive coverage of network and electricity access in marginalised communities. A study by Al-Sumaiti, Sumitkumar, and Nguyen (2024) revealed the usefulness of collaboration in improving access to amenities such as electricity. Thus, the expansion of digital learning in remote rural areas can be promoted through a multi-sectoral approach involving the interaction of the government and the private institutions. This interaction of the government and its partners ensures sustainable funding for expanding electricity and internet connectivity, as well as securing computers, which are critical for making online learning a reality in underserved communities. Thus, the government needs to partner with even international private companies to address digital resource gaps. This holistic approach can be a sustainable way of pushing the online learning agenda forward. The study findings align with those of Makarova, Gubeladze, and Sinelnikova (2020), who emphasise the need for private investment in online learning. Furthermore, the study adds to the global debate on how digital learning initiatives can be expanded and accessed by all.

While national policies are essential, it is critical to acknowledge the gap between policy rhetoric and implementation. Post-COVID-19 experiences show that governments often retreat from commitments once crises subside. Sustained political will requires legislative anchoring and accountability mechanisms. Without these, policies risk being symbolic rather than transformative.

The public-private partnerships can be promoted by giving incentives to companies that are proactively driving digital transformations in schools. This aligns with the study by Rosario, Varum, and Botelho (2024), who echo that the provision of tax incentives to companies that are actively participating in building digital infrastructure in schools can motivate them to invest more, and this is critical for reducing the financial burden on the state. Beyond local solutions to digital challenges, the nation needs to consider

allowing satellite networks to provide services in Zimbabwe for suitable and lasting solutions to network issues. We can improve our situation by learning from other countries that have successfully implemented satellite-based networks. Digital learning faces so many hurdles that call for solutions even beyond national borders.

While this recommendation is valid, Public-Private Partnerships (PPPs) often prioritise corporate interests over community needs. For example, telecom companies may invest in profitable urban areas while neglecting rural communities. Incentives such as tax breaks may encourage investment, but without regulation, PPPs risk exacerbating inequalities. A critical analysis must therefore question whether PPPs genuinely serve marginalised communities or reinforce dependency on external actors.

While the call for PPPs is promising, it requires a clear framework to avoid ad hoc collaborations. Partnerships should be initiated through formal Memoranda of Understanding (MoUs) that define roles, responsibilities, and accountability mechanisms. They must be maintained through shared investment models, where government provides infrastructure, private companies supply devices or connectivity, and communities contribute local support. To sustain engagement, PPPs should be incentivised through tax breaks, recognition awards, or corporate social responsibility credits, ensuring that private actors remain committed beyond short term visibility projects. Critically, PPPs must be regulated to prevent inequitable distribution of resources, with equity safeguards that prioritise underserved rural schools and families.

Participants suggested allowing satellite networks to provide services in Zimbabwe. While satellite networks offer technical solutions, they may introduce new forms of exclusion. Subscription costs and equipment requirements could marginalise poor families further. This highlights the need for government subsidies and community-based access models. Moreover, reliance on international providers raises questions about sovereignty and long-term sustainability

The study revealed the need for government funding to cover the much-needed resources in an online learning environment. The funding should cover the procurement of digital resources, teacher capacity development, and connecting schools to power lines and the internet. This aligns with Kofo, Ochayi and Jimoh (2022)'s call for the government to provide funds for expanding bandwidth in areas

where it is limited to enhance access to online learning. The nation needs to have systems in place for digital resource mobilisation. In schools where the internet has already been installed, the government must assist in providing grants or subsidies for subscribing to the internet. The availability of these human and non-human actors is critical for moving the online learning agenda in marginalised communities forward.

8.4.4 Teacher training systems

It emerged as a crucial finding that lecturers lack the digital skills needed to produce competent graduates who can effectively work in online learning environments. This finding reflects the digital gaps that characterise colleges and universities in the country, which need to be addressed. The suggestion to take lecturers for digital capacity building reflects that not all lecturers in the institutions of higher learning have digital literacy to assist in producing digital competent teachers that marginalised early childhood settings are eagerly waiting for. This suggests a need to fund lecturers and give them an opportunity for further professional development to equip them with the necessary skills they need to operate in an online learning environment. Addressing lecturers' digital competency gaps is critical for making teacher training institutions better online learning systems. A study by Muchemwa (2021) on university lecturers' preparedness for online teaching and learning during the COVID-19 period revealed a lack of preparedness by lecturers to use online learning platforms for teaching and learning. This has adverse impact on the students who are expected to continue learning in times of crisis, yet the lecturers cannot use the digital platforms for the purposes of teaching and learning. Ntshwarang, Malinga & Losike-Sedimi (2021)'s study underscores the need for training lecturers to equip them with the skills to use eLearning tools effectively. Lecturers need to possess high digital competencies in aspects related to online content production, learner engagement, and navigating digital tools so that they produce graduates with matching skills (Hanini, Sulaiman, Mohamed, Lip, Zdainal, Norshilawani, Binti Shahidan, Mohamad, Haji, Ishak, and Sabilan, 2020). Institutions of higher learning need to incorporate digital literacy as a core component of professional development plans for lecturers.

Thus, as schools worry about their teachers' digital competencies, so do colleges and universities worry about the digital competency of their lecturers. While the findings

rightly highlight lecturer gaps, it is critical to recognise that not all lecturers are equally unprepared. Younger faculty members or those in urban universities may have greater exposure to ICT, while rural institutions lag behind. This diversity suggests that interventions must be context sensitive, targeting institutions with the greatest deficits rather than assuming uniformity across the sector. Moreover, the reliance on external training programmes risks perpetuating dependency; universities should embed digital literacy into their own professional development frameworks to ensure sustainability.

The issue of the digital skills gap needs to be addressed in school systems as well, using teacher training institutions as the facilitators. The preceding discussion highlights the need for lecturers' digital skills to make teacher training institutions excellent places for producing graduates with online teaching skills. However, those who graduate without the digital skills need to be retrained. It emerged as a finding that in-service teachers' digital skills need to be enhanced through ongoing professional development to equip them with skills crucial to operate in an online learning environment. Hanemann (2021) posits that online teaching and learning skills for in-service teachers play a critical role in shaping their classroom practices. This is consistent with Costa, Castano-Munoz & Kampylis (2021)'s study, which highlights the need for improving the teachers' digital competences to achieve a digital transformation in schools. Similarly, Reisoglu (2021) established that early childhood teachers who participate in programmes aimed at improving their digital literacy gained capabilities in fostering active learning and assessing children's work during online learning. This study's finding calls for funding and investment for in-service teachers to undergo professional development courses on digital learning to prepare them to offer effective online learning teaching strategies for learners from marginalised early childhood settings. To some, this may sound burdensome, especially for teachers who already face significant workload pressures. In-service teachers need digital skills that enable them to work in a digital environment; hence, whatever investment is put into their professional development is worth it and justified.

Changes are inevitable, especially in an evolving technological landscape. One significant finding that emerged as a suggestion for Colleges and Universities was to change the curriculum students are currently experiencing to make it align with global trends and demands. This could be a crucial change to the teacher training system. This observation aligns with findings from various literature sources. For instance, a

study by Nkansah, Oldac and Yang (2025) argues that university lecturers should collaboratively redesign digital literacy approaches to benefit undergraduate students at all levels. Similarly, Dabbagh (2023)'s study indicates the need for a learning design framework that can be used to reinvent online and e-learning programs in higher education contexts locally and globally, by moving away from models that ask learners to memorize information and take recall tests, to a model in which technology enables the design of learning experiences that feel relevant, meaningful, and useful to learners. Hojeij, Baroudi and Meda (2023) recommended that trainee teachers' institutions need to reconsider their curricula to make sure that they include technological literacy, allowing students to graduate with significant knowledge about online and blended teaching. The new curriculum should include exposing prospective student teachers to a hybrid mode of learning as well as practicums. This finding coincides with the findings of the research by Mumford and Dikilitaş (2020) that underscored the importance of involving pre-service teachers in hybrid settings to expose them to both face-to-face educational environments and online learning environments. Similarly, transforming the teaching practice and tailoring it to the digital needs of trainee teachers was identified as significant. Kniffin and Greenleaf (2023) recommends the application of a hybrid system in school attachment programmes. Practicums offer students hands-on experience in their respective disciplines, allowing them to put their knowledge to use in real-life scenarios.

The literature scanned and the responses from the participants openly draw teacher training institutions to a point where they need to consider an overhaul review of their curriculum and practices to ensure the production of teachers who are competent and ready to teach young children in an online learning environment. This observation aligns with findings from various literature sources as evident in chapter two. For instance, a study by Nkansah, Oldac and Yang (2025) argues that university lecturers should collaboratively redesign digital literacy approaches to benefit undergraduate students at all levels. Similarly, Hojeij, Baroudi and Meda (2023) recommended that trainee teachers' institutions need to reconsider their curricula to make sure that they include technological literacy, allowing students to graduate with significant knowledge about online and blended teaching.

Most importantly, it is to make the experiences of trainee teachers practical and hands-on, giving them an opportunity to learn and apply online learning tools with real

students. For this reason, no student teacher at teacher training institutions must be allowed to pass teaching practice without demonstrating mastery of using digital tools in the teaching and learning process. Thus, higher institutions of learning are taken as an important hub for enhancing teacher access to digital learning, which in turn offers affordances to learners to access learning via digital means. If teachers are not sufficiently trained, they won't be in a position to guarantee access to online learning for young learners. The study is thus advocating for a transformed teacher training programme that improves graduates' use of digital tools.

One way of improving the school system regarding access to online learning, as reflected from the study findings, is to make trainee students competent in developing online learning content. The issue of limited online learning content creation emerged as a gap that teachers need training in. Online learning content is currently unavailable, especially in marginalised early childhood settings, which are characterised by having teachers with limited digital competencies. This gap can be addressed if teacher training systems expose their trainee students to ways of developing online learning content. This finding aligns with what Reimers and Schleicher (2020) suggested. They proposed that the teacher training institutions must ensure students are trained for online course creation. This suggests a need to transform what prospective teachers are experiencing at Colleges and Universities to include online content creation. This aspect demands that lecturers become experts in content creation so that they give students practical assignments on content creation and assist them along the journey until they become competent content producers. Having local teachers producing local online content for learners is good so that we do not borrow content from other localities that do not cater for learners' culture and identities. This further alienates them instead of solving the access issues that this study sought to address.

One other crucial suggestion offered for teacher training institutions to produce digitally competent graduates who would move the online learning goal forward for marginalised early childhood settings was to improve the digital infrastructure of such organisations. This is evident from the World Bank (2020)'s offering that infrastructure and connectivity to the internet are critical for transitioning to eLearning. The finding mirrors that of Huang, Liu, Tlili, Yang, Wang, Jemni, and Burgos (2020), whose study underscored the need to increase the server bandwidth of universities and schools to

provide a flexible learning and teaching experience for millions of students simultaneously without interruption. A study by Ntshwarang, Malinga, and Losike-Sedimi (2021) further confirms this need by asserting that the University management should further ensure that there is up-to-date infrastructure for easy implementation of eLearning. The participants' perspectives and literature evidence are testimony enough that internet facilities and the unavailability of electronic devices at most tertiary institutions account for the digital gaps that teachers report having as illustrated in chapter two, where most teacher training institutions were found to have limited digital resources for effectively train pre-service teachers preparing them to work in digital environments (Mathebula, Moila, Maile and Mnisi, 2025).

When teachers pursue digital professional development courses where the internet is poor and computers are in short supply for the student population, their probability of developing digital literacy will be closer to zero. This discrepancy needs to be addressed forthwith.

Another crucial finding of this study was the need to develop policies for higher institutions of learning tailored to ensure that trainee candidates graduating from universities have a high level of digital competencies. By implementing policies that require trainee students to graduate with digital competencies, universities can ensure that graduates are well-prepared for the demands of the modern job market (Cook, Apps, Beckman and Bennett, 2023). Teachers' digital competencies are crucial, and policies should facilitate their enhancement (Basilotta-Gomez-Pablos et al., 2022). Since policies guide action, this study advocates for the enactment of national and university-based policies that work as a framework guiding the preparation of modern teachers with digital competencies that the world, especially the countryside, patiently waits for. Schools need teachers who are digitally competent. Colleges and universities are the sources for such teachers, hence the need to make it mandatory that their products are perfectly trained and can effectively use digital platforms with young learners. Participants of the current study needed to see policies that require student teachers to demonstrate competencies in the utilisation of online learning tools before graduating. This will go a long way both as a push factor and a motivator for trainee teachers to acquire digital skills at all costs.

Conclusively, this study highlighted major suggestions for teacher training institutions, which are believed to assist in the preparation of competent teachers and the re-skilling of those in practice. The motivation here is that the human component in the online learning processes needs to be equipped with the necessary skills so that, in the event of another world attack by either a pandemic or natural disaster that may disrupt face-to-face education, we mustn't be caught unprepared, as happened during the COVID-19 pandemic. Thus, the study has practical implications for teacher training.

8.5 In relation to theory

The improvement of access to online learning for learners in marginalised communities cannot be complete without exploring it from Bronfenbrenner's ecological systems theory. According to Zhang and Ahmed (2020), ecological systems theory are a platform for understanding world phenomena by exploring relationships among the systems parts that extend beyond the parts themselves. It emphasises the interconnectedness of components within a system (Olatunji, 2024). Looking at access to online learning for marginalised early childhood settings from ecological systems theory would assist in providing insights into how digital infrastructure, teacher preparedness, parents' socio-economic status, policy effectiveness, and multi-stakeholder collaboration interact to offer favourable online learning environments in marginalised communities. Thus, the school, the national and the teacher training programmes as components of a broader online learning enhancement system need to work towards a common goal that of improving access to digital learning for learners in marginalised communities. This aligns with findings of the study by Asmayawati (2023), which reveals the significance of fostering effective online learning environments and ensuring inclusive access to technology through collaboration of various actors. This theory is essential in exploring systemic barriers to online learning in marginalised early childhood settings and in developing sustainable solutions that enhance inclusivity and accessibility.

8.7 Conclusion

The aim of this chapter was to elicit context-specific strategies from participants that could promote access and support for online learning among young learners in marginalised early childhood settings. The findings underscore the critical role of four interconnected ecological systems to online learning access for learners in marginalised early childhood settings: the family, the school, the national policy landscape and the teacher training systems. It emerged that families in marginalised communities lack the social and economic capital to support children's online learning. The study found that lack of access to digital resources at home contributes largely to the broader digital divide. The school system emerged as both promoter and inhibitor of online learning. While schools possess the potential to advance online learning, teachers' lack of digital competencies, as well as limited digital infrastructure, such as electronic devices, electricity, and the internet, significantly affects meaningful integration of online learning in marginalised ECD settings. Additionally, the national policy frameworks were found to be insufficiently responsive and to lack sustained support for online learning. Moreover, the teacher training systems were found wanting in terms of producing pre-service teachers with an adequate digital skill set. This was attributed to lecturers' limited digital competencies and inadequacies in technological infrastructure.

These findings imply that digital marginalisation at home significantly contributes to the broader digital divide which characterises most underserved communities in Africa. To address this, there is a need to pay special attention to parents' digital literacy and their access to digital resources. The findings also revealed that the lack of schools' capacity to advance online learning initiatives due to limited access to internet connectivity and devices further marginalises the already marginalised populations. Based on findings on national policy landscapes, which were found to have silences on sustainable means to promote digital inclusion, moving forward, it is critical to have improved state investment towards electrifying schools, connecting them to the internet, and to prioritise digital inclusion in national development agendas. Lastly, the findings underscore the need to reimagine teacher training curriculum, tailoring it to the online learning needs of teachers in the digital age.

The next chapter presents the conclusions and synthesis of the major findings of the study, relating them to research questions. It also highlights how the study addressed the identified gaps and outlines its contributions to both theory and practice.

CHAPTER 9

Summary, Conclusions and Implications

9.1 Introduction

The previous chapter explored the suggestions and interventions needed to promote access to online learning for learners in marginalised early childhood settings. This chapter offers a detailed summary of the research processes, reviewing how the chapters were structured and what was found. The chapter is the study's final reflection of the research developments and scholarly contributions. It comprises several thoughtfully developed sections that open with a revisit of each chapter, summarising the central themes and significant findings that shape the study. The chapter drew conclusions based on the research questions, determining the degree to which the research questions have been addressed. Through this process, the study concludes by presenting the impact and implications of the study to theory, policy and practice. This section offered insights to teachers, researchers, policy makers, the government and other stakeholders looking to sustainably implement online learning in underserved ECD contexts. The chapter uncovers exciting suggestions for future study and concludes with a presentation of the Mapuranga Framework for Action, which is the study's original contribution to knowledge in the field of digital learning. The Mapuranga Framework for Action is anticipated to open new possibilities for continued research exploration and practical implementation of the digital learning initiatives, making a significant contribution to early childhood education research.

9.2 Summary of research questions addressed in this study

The study was guided by five central questions:

- a) What are the policies that exist in Zimbabwe to address issues of marginalisation, access and support to online learning in ECD settings?
- b) What do the beliefs of teachers suggest about the significance of online learning in marginalised ECD settings?

- c) What are the main obstacles to access and support to online learning in marginalised ECD settings?
- d) What strategies exist for promoting access and support to online learning in marginalised ECD settings?
- e) How can the findings of this study inform an online learning framework for action for overseeing sustainable online learning in marginalised ECD settings?

These questions provided the scaffolding for the research design, data collection, and analysis, ensuring that the study remained focused on both empirical realities and theoretical contributions.

9.3 Summary of the research process

The impetus for this study arose from the COVID-19 pandemic, which exposed stark inequalities in access to online learning. While online learning was adopted quickly in urban areas, rural and marginalised communities struggled due to infrastructural deficits and socio-economic constraints. This led to the investigation of lived experiences of access and support to online learning for learners in marginalised early childhood settings. The study was situated within the interpretivist paradigm, which privileges lived experiences and subjective meanings, complemented by critical theory, which interrogates structural inequalities and power dynamics. This dual lens enabled the research to capture both the voices of participants and the systemic forces shaping their realities.

A qualitative, multi-sited case study design was adopted to allow for comparative insights across six schools in Buhera District. Eighteen participants composed of twelve early childhood teachers and six school heads were purposively and conveniently sampled. Data were generated through semi-structured interviews, classroom observations, and policy document analysis.

Analysis followed Braun and Clarke's reflexive thematic analysis, ensuring systematic identification of themes, while policy documents were examined using Qualitative Document Analysis. Ethical considerations were upheld throughout, with attention to consent, confidentiality, and respect for participants.

9.4. Overview of the foundational chapters of the study

The first four chapters established the foundation for the study:

Chapter 1

Introduced the problem of digital marginalisation in Zimbabwe's rural ECD settings, contextualised within historical inequalities and infrastructural deficits.

Chapter 2

Reviewed literature on teacher beliefs, colonial legacies, infrastructural barriers, and strategies for digital inclusion, highlighting gaps in systems-level approaches.

Chapter 3

This chapter presented the conceptual framework, integrating theories such as actor-network theory, cognitive dissonance, post-colonial theory and ecological systems theory. This framework ensured findings were interpreted within broader discourses.

Chapter 4

Chapter four outlined the methodological orientation, emphasising the appropriateness of qualitative inquiry and the dual paradigmatic lens for capturing both lived experiences and structural dynamics.

Together, these chapters provided the intellectual and methodological scaffolding for the empirical analysis.

9.5 Overview of findings chapters addressing the research questions

In this section, a summary of the findings addressing the research questions was provided.

9.5.1 Findings addressing research question 1

What are the policies that exist in Zimbabwe to address issues of marginalisation, access and support of online learning in ECD settings?

The empirical study established that absence of online learning policies for marginalised communities account for lack of ECD specific digital provisions. The study results highlight that existing policies are silent and do not adequately address access and support issues to online learning for learners in marginalised early childhood settings. The document analysis as well as data from interviews, reveal that although some policies such as the 2020 Education Act as amended, the 2021 ICT policy and the Zimbabwe Early Learning Policy (ZELP, 2023) have clauses that support the integration of technology in the class, they are not specific on how online learning should be supported for young children in marginalised settings. This aligns with the 2022 findings by UNICEF Zimbabwe, which stressed that rural schools remained underserved despite the expansion of online learning initiatives due to a lack of digital infrastructure and specific policy support. Policies such as the NDS1 and Vision 2030 were found to be ambitious to increase internet penetration by 2030; however, deep infrastructural deficits exist in marginalised communities. The findings underscore that while ambitious national goals exist, they are not tailored to local, actionable strategies, particularly in marginalised communities. This echoes the findings by UNICEF (2022) that highlight the existence of a digital divide and infrastructural gaps in rural schools. The study also reveals that most of the policies that focus on addressing economic marginalisation of learners from remote rural areas, such as Basic Education assistance Module (BEAM), the School feeding programme, and Free and compulsory education, suffer from poor funding, creating gaps between policy intention and the implementation of the policies. The call for strong funding mechanisms also emerged from a report from Zimbabwe Network of Early Childhood Development Actors (ZINECDA) (2025), which advocates for the timely disbursement of funds.

On disability related marginalisation, both the document review and participants' data set reveal that while the National Disability Policy (2021) and the Disabled Persons Act (1992) provide legal frameworks for inclusion, schools lack resources to support learners with disabilities. This highlights that having policies alone is not sufficient

without resources for implementing the policy. Learners with disabilities will remain marginalised if this gap is not addressed. This is consistent with ZINECDA (2025)'s findings that call for enforceable strategies to support learners with disabilities in ECD settings. It emerges as a finding that health and nutrition policies do exist; however, they are unevenly applied. The Zimbabwe school health policy and the National Health Strategy (2021-2025) focus on improving health outcomes for all, yet malnutrition remains prevalent in marginalised communities.

By revealing the presence of policy gaps and implementation challenges, the findings directly answer the research question. The findings further called for specific, well-funded interventions to promote equitable access to online learning for young learners in marginalised ECD settings.

9.5.2. Findings addressing research question 2

How do teachers' pedagogical beliefs inform the perceptions of the significance of online learning in marginalised ECD settings?

The study sought participants' views on the significance of online learning in early childhood. The findings show that teachers' beliefs critically shape online learning practices, yet they are under supported. Several beliefs emerged regarding the benefits of online learning in early childhood education. Online learning was seen as pivotal for equipping young learners with digital skills essential for future employment in a technology-driven world. This is consistent with research findings of a study by Goger, Parco and Vegas (2022) who posits that early exposure to digital resources has implications not only for enhancing current learning experiences but also for preparing for future employment prospects that may require deep knowledge of using digital tools.

The study further revealed that exposing young learners to digital learning was a sure way of preparing for future world crises. Online learning emerged as a significant platform for continuity of learning, especially during the crisis period. When this platform is rolled out in every school, the nation will be guaranteed a smooth shift to digital learning in cases of a crisis (Dhawan, 2020).

It emerged that online learning enhances information flow. The study raised high hopes in digital learning, especially for its room to promote continuous information flow, which is critical for addressing issues of disease spread among the people, as was seen during the COVID-19 pandemic period. This continuous information flow ensures that all stakeholders remain informed and connected, enabling a coordinated response to emergencies and minimising disruptions to the learning process.

Another significant finding was the recognition that online learning serves as a platform for reaching the hard-to-reach populations, especially those with physical disabilities. By emphasising the hard-to-reach individuals, the study aligns with broader global efforts to use digital learning as an avenue for ensuring social justice. Some young learners miss out on school because they can't walk to school due to their disabilities. Shifting to online learning would assist in ensuring that such learners have access to education at the comfort of their homes. Thus, online learning provides the flexibility that those with physical challenges need the most. This belief highlights the flexibility of online learning in promoting inclusive pedagogy where those with disabilities are supported to have access to education. I therefore argue that online learning, apart from offering opportunities for learning, also works as a platform for addressing structural inequalities in education.

However, the study also revealed some critical reservations that some participants have regarding the developmental appropriateness of online learning for young learners. Many reasons for their argument were provided. Participants raised concerns about the potential health risks of exposing young children to online learning. In addition, teachers have limited digital knowledge to teach using digital platforms and schools have limited resources that promote digital learning. Such beliefs reflect the dissonance that teachers go through when faced with the need to promote digital learning, yet they do not have digital literacy or the resources to practically implement the online learning initiative. Thus, the contextual constraints facing those in marginalised communities account for the reservations that teachers may hold regarding online learning (Moyo and Sibanda, 2023).

The study established that the beliefs teachers hold about online learning in early childhood settings are influenced by multiple factors. It emerged from the participants' voices that teachers' personal experiences with online learning tools significantly

influence their beliefs. Teachers with positive experiences of using online learning platforms during their own professional development programmes or positive outcomes observed in young children using digital devices tend to foster supportive beliefs and attitudes towards online learning. Positive experiences can lead to acceptance of digital instruction with young children. Teachers who had undertaken further professional studies reported greater confidence in using online learning tools, suggesting the importance of continuous professional learning for teachers.

The results of the study further highlighted that perceptions of the appropriateness of online learning in early childhood is shaped by the global debates and the success stories shared about the benefits of such an initiative. The beliefs held by parents also count. If parents and families perceive digital learning positively, teachers will be motivated and accept the responsibility of moving the online learning agenda forward. Conversely, negative parental attitudes can hinder the utilisation of online learning despite ECD teachers' beliefs. This reveals how teachers' pedagogical beliefs can be shaped by community-level factors. This aligns with Harrison and Brown (2025)'s submission that teachers operate within a web of networks and their beliefs are shaped by the cultural contexts in which they work.

An additional driver of teacher beliefs is the digital readiness of schools and the teachers. Schools that are digitally resourced and supportive of online learning at ECD level produce an environment conducive to its adoption. Thus, infrastructure and readiness directly impact on the practical use of online learning instruction with young children. The readiness of schools and teachers to implement digital learning with young children enhances the likelihood of its success.

The results of the study underscored the significance of beliefs on teachers' classroom practices. The heads of schools reiterated that people tend to pursue what they believe in. Beliefs were taken as a crucial determinant factor for the success of online learning adoption in marginalised early childhood settings. It emerged that teachers with positive online learning beliefs are more likely to embrace digital learning tools in their teaching than their counterparts with negative beliefs. This alignment between beliefs and practices can enhance the effectiveness of online learning experiences.

The findings of the study directly answered that research question by demonstrating that teachers' online learning beliefs play a significant role in determining how online

learning in marginalised ECD settings is perceived and implemented. The teachers' beliefs highlighted not only the importance of online learning but also its practical adoption in marginalised communities. To this end, supporting positive digital learning beliefs is a prerequisite for meaningful integration of online learning in ECD settings.

9.5.3 Findings addressing research question 3

What are the main obstacles to the access and support to online learning in ECD marginalised communities?

The study found out that access to online learning for learners from the margins of mainstream life faces hurdles. The historical policies and practices laid the foundation for digital disparities between the urban and rural areas. Colonial policies, especially for the Education sector, set English language as the medium of instruction in schools without considering the challenges this may bring, especially to the young children who were not familiar with this mode of instruction. It emerged that colonial policies and practices were unjust and neglected the language and knowledge systems of the local people. The policies forced learners to learn in a language that is foreign to them, and this has an impact on students' understanding of the concepts. The emergence of digital learning with digital content in a language that is foreign to young children would further push learners away from becoming achievers in the education system.

It emerged that during the colonial era, the colonial government neglected infrastructure development in rural areas and concentrated on urban infrastructural development. This puts the rural areas in the current situation where adoption of emerging technologies is closer to impossible as a result of limited digital infrastructure resources. This unjust treatment of rural communities account for the technological marginalisation which continued to affect them even in the post-independent Zimbabwe. Marginalised communities are struggling to access infrastructural resources such as roads, electricity and a sustainable network. A lack of these resources limits the utilisation of online learning tools in underserved communities.

It emerged that colonial policies and practices laid a basis for limited access to digital learning for learners in marginalised early childhood settings by privileging the rich. Colonial-era policies and practices often limit access to quality education for remote rural areas, making education accessible to the rich children only and this disparity

persists even today, and has a bearing on the extent to which marginalised communities access online learning. During the colonial era, early childhood education was only accessible to children from privileged backgrounds, and the same may repeat in the form of online learning. Only children from rich families have access to digital resources and tools. This situation is an obstacle on its own regarding access to online learning for learners in marginalised communities. The findings reflect how colonial masters made access to quality education a reserved opportunity for their children, neglecting the plight of African children. Online learning demands resources that are available in resource-rich communities, such as the availability of internet, electricity, and digital resources such as computers. It is easy for learners in such environments to shift to digital learning as compared to their peers in underserved areas.

Apart from colonial policies and practices, which set the tone for rural disadvantage, limited access to digital resources by young learners from marginalised early childhood settings has an adverse impact on the implementation of digital learning. The observed data shows that a number of schools had no digital devices, electricity, and internet services needed for online learning. Schools in marginalised communities, as reported by the voices of school heads and teachers, lack the financial resources to mobilise online learning resources. Digital learning in disadvantaged communities is not possible due to the absence of sustainable internet provision needed for online learning. The community also receives very poor network broadband from a booster that is kilometres away from us, and buying internet bundles is a challenge for most parents in this community. Digital resources were also found to be unavailable in local shops, and the prices charged in nearby towns are too high. This limit both schools and families' access to digital devices essential for online learning. Although the researcher noted a positive move by the government to install internet services at each site of the research, barriers were noted that affect the effective use of the internet, such as a lack of funds for subscription and limited access to power backups.

Parents constitute an important component in the digital space. They have a role to play in providing digital devices, internet data, and expert knowledge during the online learning sessions. The study, however, established that most parents, especially in underserved communities, have limited financial resources and knowledge to assist

their children during online learning. Online learning for learners in marginalised early childhood settings could not work because of the high costs of smartphones, which parents could not afford, as well as the poor network coverage that is experienced in most remote rural areas. Parent factor was therefore found to be a significant barrier to the access and support of online learning in marginalised communities.

Teacher and learner competencies to use digital tools surfaced as a barrier to access to online learning for young learners in marginalised early childhood settings. Teachers and learners were taken as critical actors in the digital space; hence, their lack of digital skills has a bearing on the adoption of online learning as a teaching and learning platform. It emerged that how well online learning works depends on how good teachers and learners are with technology. If they don't have enough skills, it can make the digital learning initiative less helpful.

Lack of policy support for online learning in marginalised early learning settings emerged as one of the critical barriers to digital learning spaces. The study showed that access to digital learning is challenging in marginalised educational settings because of a lack of policy guidance to support access to digital resources. Online learning currently is not a key priority area of the government, making the funding of these new teaching and learning models a challenge. There is a need to include digital learning on the national agenda so that it receives a share of the national budget. Online learning in our country is not included in the national budget, and there are no policies that support its adoption, especially for marginalised early childhood settings.

Beliefs about the health and safety of learners in an online learning environment manifested as one of the obstacles to young children's access to digital learning. Participants were of the opinion that the health and safety of learners is at risk when using online learning platforms. Online learning was found to expose young learners to harmful content that may impact their normal growth and development. It also offers limited opportunities for social development. Thus, if parents, teachers, and the world at large have concerns regarding the use of online learning tools with young children, they don't support an initiative that requires them to shift to digital learning even in the event of a world crisis like COVID-19. This becomes a drawback to the acceptance of online learning. If there is a world debate regarding the utility of online learning for the young learners, then its adoption becomes a pipeline. The international organisations

like UNESCO and UNICEF advocate for something that the world has a position on. If it's still debatable, nations will not take it into their national priorities. Conclusively, colonial and contemporary structures sustain digital exclusion.

9.5.4 Findings addressing research question 4

What strategies exist for promoting access and support to online learning in ECD settings in marginalised communities?

9.5.4.1 Actors and systems in place to improve access to online learning

The study highlights the need for multi-level actors at micro, meso and macro levels to enhance access and support to online learning for marginalised ECD settings. It emerged as a finding that multiple actors have a contribution in ensuring access and support to online learning. The identified actors include families, schools, teachers, learners, teacher training institutions, the government, school heads and SDCs, private companies and Non-Governmental Organisations. These actors serve double-barrelled roles as both actors and systems for pushing the online learning agenda forward. A collaborative environment is called for where these systems interact to promote access to digital resources for young learners in marginalised ECD settings.

9.5.4.2 Barriers to action in improving online learning access

Although different stakeholders and systems were identified as critical in improving access to online learning, often the times, these actors do not execute their expected duties due to different barriers. The barriers include financial constraints of the government, lack of clear policies on online learning, limited access to digital infrastructure, limited digital skills among learners, parents, and teachers, as well as beliefs the world holds regarding online learning in early childhood. Limited parental involvement emerged as one of the key barriers to action regarding shifting to online learning. It was suggested that schools and teachers when provided the resources can bridge the caregiver non-involvement gaps. These barriers need to be addressed through a multi-sectoral approach where different actors play a part for a common cause.

9.5.4.3 Improving systems for online learning access in marginalised communities

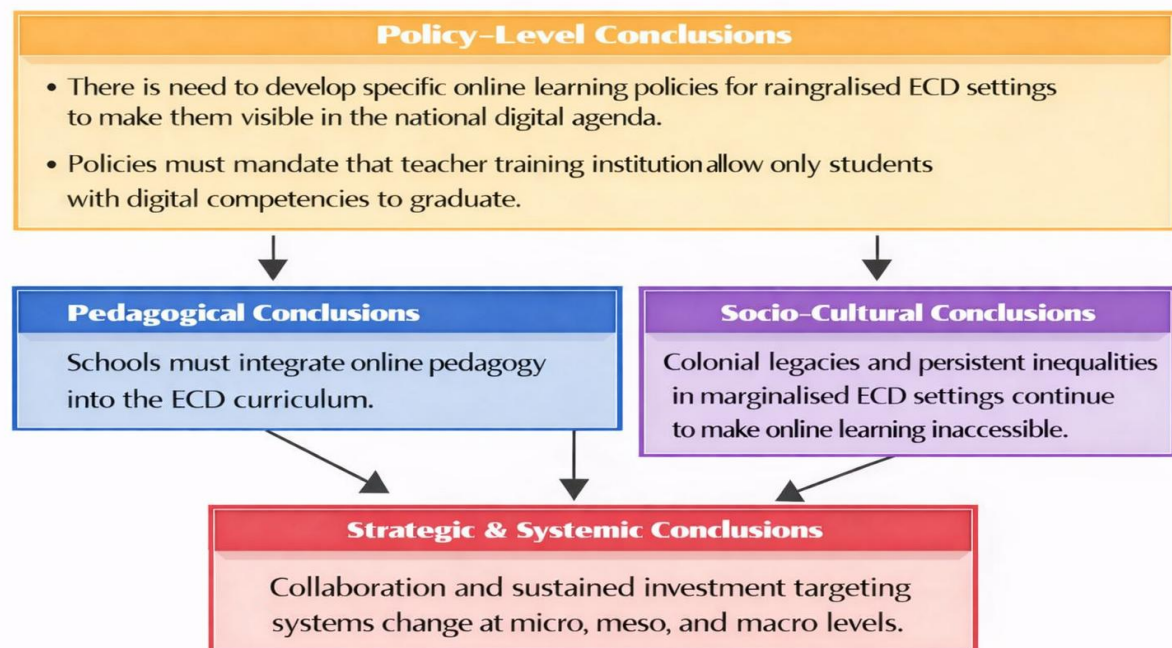
The study highlights the need to improve family, school and national systems as a way of increasing access to digital resources for learners in marginalised early childhood settings. Thus, the ecological systems of young children need to be ready to support their learning using online learning platforms. The family, the school, teacher training institutions, and the government need to constitute an online learning enhancement system that interacts to make digital learning for marginalised early childhood settings a reality.

Conclusively, the study findings answer the research question by providing a comprehensive strategy for promoting online learning access for young learners in marginalised ECD settings. Instead of just identifying barriers to online learning access, the study added a new lens by proposing an actionable route for sustainable implementation of the online learning initiatives, particularly for marginalised ECD contexts. This path to equitable online learning involves systemic reforms, strong funding and having specific online learning policies.

9.5.5 Findings addressing research question 5

How can the findings of this study inform an online learning framework for action for overseeing sustainable online learning in ECD settings in marginalized communities?

9.5.6 Study conclusions



Source: Owner's creation

Fig 9.1 Study Conclusions

My study concludes that equitable online learning in marginalised early childhood settings requires deliberate policy action. First, Zimbabwe needs specific online learning policies that directly target marginalised ECD settings, ensuring that young learners are not left invisible in digital agendas, and teachers need to be properly trained to work in digital environments. Without systemic investment in teacher development, there is the risk of reproducing exclusion rather than overcoming it. Second, is the pedagogical conclusion that strives to see all primary schools in Zimbabwe integrating online pedagogy into the ECD curriculum, embedding digital learning as a core practice so that children acquire foundational 21st-century skills. The study concludes that colonial legacies and persistent inequalities continue to make online learning inaccessible for underserved communities. The final conclusion is that despite all the challenges to online learning access, collaboration and sustainable investment targeting systems at micro, meso and macro levels would change the narrative of those living in the margins.

9.6 The Need for the Framework for Action

Marginalised early childhood development settings in Zimbabwe face several systemic barriers to online learning such as limited access to digital facilities, limited digital competencies among learners, parents and teachers as well as socio-cultural exclusions in digital content. The study proposed a Framework for Action that responds to these challenges by offering a roadmap that is context sensitive. The Framework for Action strives to provide a lens through which access to digital resources for underserved communities can be improved. This framework is grounded in literature and is responsive to the identified gaps. A study by Gottschalk and Weise (2023) underscores the existence of digital inequalities in education for disadvantaged learners and advocates for inclusive design, teacher professional development, and systematic monitoring. UNESCO (2025) stresses that digital inequality accounts for the socio-economic exclusions that characterise most rural settings across the Global South. It advocates for the development of online learning content that speaks to the realities of those in marginalised communities. The proposed Framework for Action responds directly through including teacher competency frameworks and systems readiness to build capacity, included offline modalities to mitigate infrastructural gaps and ensures sustainability of digital initiatives by incorporating the percentages of schools with sustained online learning initiatives over time. UNICEF (2025) advocates for scaling what works for early childhood development and the retrieval of indigenous pedagogical histories, which the current framework operationalises through play based and culturally responsive pedagogy integration. The need to decolonise the colonial curriculum was stressed by Onifade (2025), who advocates for models that combat the epistemic violence of colonial times. The proposed Framework for Action responds through including de-colonising the ECD digital landscape as a critical pillar for promoting access to online learning for learners in marginalised communities. The Framework for Action is a unique model, and is a co-constructed framework that bridges global equity discourses with African ecologies, lived realities and pedagogies.

Access to online learning for learners in ECD contexts continues to be a pressing 21st-century issue, ensuring access. Early childhood development learners in marginalized communities continuously endure disparities in access to digital resources despite global, regional and national efforts. Various digital frameworks exist that were

developed with European, American, Asian contexts. However, very few focuses on access to online learning for marginalised ECD settings in the context of Africa particularly Zimbabwe. A new framework for action was needed to address these gaps.

For this reason, it was inevitable to develop a framework that captures the lived experiences of the context under which the study was done. The framework may not address access to digital learning concerns for other countries, but it is a specific and contextually grounded model to address the persisting digital inequality in the Zimbabwean context. If this framework is to be adopted, it is going to address the access to digital learning gaps that are there; however, it can be generalized if the same situations prevail elsewhere. Furthermore, the study findings reveal that the lack of specific digital policies tailored to the lived realities of those in marginalized contexts, the lack of sustainable mechanics to advance digital learning, and the limited integration of culturally and linguistically relevant online learning content for ECD learners made it mandatory to develop a new framework of action.

A synthesis of the existing online frameworks reveals the need for the formulation of a new framework tailored to ECD contexts and those in the margins of community living. A new framework that embeds online learning as a school readiness domain, that guarantees continuity of ECD digital initiatives, that respects learner voice and safety, as well as incorporates local language content development, is critical since most existing frameworks do not clearly emphasise such constructs. Frameworks like the UN Framework were meant to cover adult learners, creating the need for a new framework that is developmentally appropriate to ECD contexts. The adult-centric models identified lacked grassroots-level engagements; in the new framework, parents and community engagement were made central to the model. Most frameworks scanned for this study were more theoretical, general, and lacked policy alignment, like the OLJ, hence the need for a more applied and context-specific model. As previously noted, the AU strategy operates mainly at Macro level. In response, the proposed Framework for action closes this gap by offering a micro-level and community-embedded lens for implementation. A framework that extends the existing frameworks while introducing new constructs such as sustainability, monitoring and learner agency is critical to ensure equitable access to digital resources for learners in

marginalised communities. These constructs are integral to the proposed Framework for action.

9.7 Mapping the conceptual foundations of the Framework for Action: A justification of construct selection

This section is about mapping the conceptual foundations of the proposed Framework for Action, justifying the construct selection.

To improve access and support to online learning for learners from underserved ECD contexts, ten variables or constructs were identified based on the digital gaps identified in both literature and empirical findings. Each variable was thoughtfully chosen to offer a lens for improving access to online learning in marginalised ECD settings. Of these constructs, access to online learning is central to the framework. The identified constructs forming the proposed Framework for Action were carefully selected to address the micro, meso and macro levels of online learning access and support. Constructs that belong to the same ecological systems level formed a distinct category which is represented by a colour code. This was helpful for conceptual clarity.

The first category focuses on building an enabling environment for digital inclusion at micro level. These constructs are colour coded green. It has three (3) constructs which are online learning as a school readiness domain, teachers' digital competency frameworks, parental digital inclusion capacity.

9.7.1 Online learning as a school readiness domain

Historically, school readiness has referred to a set of developmental milestones and competencies that learners need to acquire before transitioning into formal schooling. In Ladd (2003)'s view, school readiness implies that by the time the child enters grade school, they have achieved a level of development that makes it likely that they will successfully adapt to the challenges of formal schooling. The United States National Education Goals Panel (1996) posits that school readiness encompasses five dimensions, which are physical well-being and motor development, social and emotional development, language usage, cognition, and general knowledge. In the same line, Brown (2018) posits that health and physical development, social and

emotional development, language development, cognition and approaches to learning should be considered when promoting a child's school readiness. School readiness ensures that the child is ready for school in order to gain full benefit from formal education (Bruwer, 2014). This study advocates for the inclusion of online learning in the school readiness domains list. This is critical to ensure that, as early as the ECD level, learners acquire critical skills for navigating online learning with minimal scaffolding. However, the emerging technologies that characterise the 21st century, as well as the disruptions COVID-19 has caused, underscore the inadequacy of existing school readiness domains in preparing learners for the realities of the digital era. Before the world was attacked by the COVID-19 pandemic, online learning was optional and commonly adopted in higher education. In contrast, it has now become a critical pillar for educational continuity and educational access across all levels of education. Against this backdrop, the present study proposes to include online learning in the traditional school readiness framework as a realisation that it is a foundational component of early learning and development. Such inclusion would ensure that learners acquire basic digital skills by exposing them to age-appropriate and relevant online content before they enroll in formal grade levels.

9.7.2 Teachers' digital competency framework

Teaching young learners in the contemporary digital education landscape demands that teachers have digital capacity to effectively navigate the online learning modalities. The dream for equitable access to online learning in marginalised ECD settings is contingent upon the development and implementation of national digital competency standards for teachers. Although the nation retains the prerogative to adopt internationally established frameworks such as the UNESCO's ICT Competency Framework for Teachers (2018) and the European Digital Competence Framework for Educators (DigCompEdu) (cited in Redecker, 2017), there remains a significant gap, that of the absence of digital frameworks specifically tailored for ECD pedagogical realities. Within the Framework for Action, the development of a national teachers' digital competency framework is positioned as a foundational imperative. It is critical to formulate a digital competency framework that is culturally responsive and contextually tailored to the lived realities of marginalised ECD learners and teachers. The study's empirical findings underscore the need to develop policies that mandate teacher training institutions to ensure that graduating students have acquired a set of

digital skills required to effectively navigate the online learning environment with young children. Thus, the frameworks need to ensure that teachers graduate from Colleges and Universities with the ability to motivate, scaffold and manage learner engagement within online learning spaces. Teachers' digital competency directly influences the nature of online learning experiences that learners are exposed to. Any commitment to sustainable online learning must start with the development of teachers' digital competency frameworks which are not only technologically sound but pedagogically transformative.

9.7.3 Parental digital capacity

Parents play a central role in their children's online learning although most of them were born before computer was integrated into educational systems. The lived experiences of the COVID-19 pandemic highlight the visible incapacities of parents, particularly those from marginalised contexts, to effectively support online learning modalities. The present study findings resonate with the researcher's own lived experiences, highlighting a gap in digital literacy among parents for scaffolding digital engagements and troubleshooting any technological disruptions that arise during online learning sessions. Parents' digital literacy emerges as a key determinant of equitable access to online learning in marginalised ECD settings, yet, in its absence, the promise for improved access to digital learning remains unrealised. The observed digital literacy gap necessitates the reconceptualisation of parental digital capacity as a critical pillar within the Framework for action, catalysing the design of a culturally responsive parental training programme. By foregrounding the parental digital capacity, the Framework for Action recognises parents as important co-constructors of the online learning ecosystems.

The second category of the proposed Framework for Action has focused on the meso level constructs, which are cross sector collaboration for digital equity, systems readiness for online learning access, strengthening offline learning modalities, aligning the framework with established ECD pedagogy.

9.7.4 Ensuring cross-sector collaboration for advancing digital equity

The magnitude of the digital divide that exists in marginalised early childhood settings is so huge that one sector alone, whether it be the government or community

organisations, cannot sustainably address it. It was for this reason that a strategic collaboration among key stakeholders such as the government, private sector and NGOs is critical in the proposed Mapuranga Framework for Action. This goes with the saying that, there is power in the jointed hands in bringing answers to digital access challenges facing young learners in marginalised communities.

9.7.5 Systems readiness for online learning

Access to online learning for learners in marginalised ECD settings depends on the systems in which the child is placed (Bronfenbrenner, 1977). Currently, these systems are not adequately prepared to provide an enabling online learning environment, as the empirical evidence for this study indicates. This gap necessitated the inclusion of systems readiness within the proposed Framework for Action. The family, the school, the wider community, parents' workplaces, the government, national policies, and cultural norms form a complex web for supporting access to online learning. These nested systems must be ready to influence access by ensuring the availability of digital resources, especially in resource-constrained contexts. The systems readiness construct was therefore integrated into the broader framework to remove institutional barriers impacting young children's access to online learning and to operationalise the ecological systems model within the digital learning landscape.

9.7.6 Strengthening offline learning modalities

The proposed Framework of Action strives to promote access to digital resources and instructional modalities for learners located at the peripheries of socioeconomic and geographical inclusion. It also acknowledges the potential reproduction of marginality in cases where resources for online learning fail to materialise, even in cases where government interventions have been tabled. The government may commit to improving access to digital resources for marginalised communities; however, due to structural limitations such as fiscal volatility and other implementation barriers that emerge beyond the planned budgetary confinements. These contingencies call for a complementary and resilient trajectory for promoting learning where online learning fails. The Framework for Action proposes to strengthen offline learning modalities to ensure that no child is left behind. There is a need to consciously reflect on the nature

of offline learning that young learners may be exposed to in times of crisis and develop the offline resources now. During the COVID-19 pandemic crisis, this mode was put to the test, and gaps were noted regarding access to this platform. In most cases, learners from marginalised communities were unable to access offline learning resources through radio broadcasts, pre-recorded lessons, or printed materials. This highlights the ineffectiveness of offline mode in crisis contexts. This Framework for Action is timeously responding to this gap, calling for the development of offline learning resources that guarantee continuity of learning for those without access to online learning. As the nation moves to advance online learning in underserved communities, it is critical to think of offline pathways to safeguard the learners' right to learn, irrespective of access to digital resources or volatile political environments.

9.7.7 Alignment of the Framework for Action to established ECD pedagogy

The Framework of Action does not work in isolation of the established ECD pedagogy. Since the framework was developed for early childhood learners, its operations should align with play-based and culturally responsive pedagogies. Thus, any framework for young children needs to respect children's rights and interests. Children have the propensity to play. Any online learning designed for them should keep this principle in mind. To be culturally responsive, the online learning content must reflect the children's languages and cultures. This alignment to ECD pedagogy was made central to the proposed Framework for action to ensure that digital tools support and do not replace developmental needs. Through the implementation of this construct, online learning would address holistic child development

The last three (3) constructs that are colour coded blue are macro level interventions for improving access and support to online learning and are presented below:

9.7.8 Development and Implementation of context-specific policies

The lived experiences and the study's empirical findings reveal the existence of policy gaps affecting access to online learning for learners in marginalised ECD settings. There is lack of specific policies to address marginalisation and promote access to online learning for young learners in marginalised communities. In cases where

policies exist, they lack robust implementation mechanisms. It is against this backdrop that the incorporation of context specific policies within the proposed Framework for Action is imperative. This inclusion is necessary for scaling grassroots based digital policy support frameworks that comprehensively address marginalisation and promote equitable access to online learning in underserved ECD sector.

9.7.9 De-colonising the ECD online learning landscape

Literature scanned for this study, as well as the findings, revealed the role that the historical policies and practices account for the limited access to digital resources witnessed in marginalised ECD settings. In chapter two, colonial policies and practices were highlighted that were foundational to the current limited access to resources for underserved communities. Laitin, Ramachandran and Walter (2019) confirm that the imposition of the foreign language on African soil has created a colonial language regime the marginalised local languages and the legacy of such policies are experienced today through continued use of English language in the post –colonial education system. Apart from linguistic and cultural suppression, the colonial tendencies of prioritising urban development exacerbated rural marginalisation. A study by Cowie, Townsend, and Saleminck (2020) confirmed that those responsible for digital advancement normally favour urban areas, and this tendency is likely to marginalise rural places further. Amoako (2023) reinforces the fact that during colonial times, formal education was primarily accessible to privileged children, while children from low-income and remote homes were largely excluded. Moving forward, these inequalities need to be completely addressed, to pave way for seamless shift to digital learning for learners in ECD marginalised settings.

These policies and practices still prevail in the post-colonial era, hence the need for a framework that focuses on meaningful decolonisation of early years learning. This includes the development of online learning content in children's own languages and an appetite from the scholarly world to generate and constructed knowledge based on lived experiences, respecting local languages and cultures. The framework for action included decolonising the ECD contexts as one of its pillars for action.

9.7.10 Sustainability of online learning initiatives

The COVID-19 experiences served as a litmus test for online learning systems, especially in marginalised ECD settings. Empirical evidence from this study and lived experiences during the COVID crisis reveal that online learning initiatives, while rapidly deployed, were not sustainable, but rather episodic and lacked structural sustainability mechanisms. The digital ecological systems that emerged to advance online learning for marginalised communities were prematurely dismantled soon after the threat of the pandemic subsided. This regression speaks volume about the absence of long-term strategic planning in online education policy and practice. Such a tendency poses a threat to educational resilience. If the world experiences another pandemic or environmental disaster, those in marginalised contexts will be found unprepared again. In response to this gap, the Framework of action introduces a sustainability construct to ensure the longevity of online learning initiatives. Online learning support plans should be imbedded within long-term school, districts and national strategies. By having a longevity focus, the framework supports scalability across rural, peri-urban and other underdeveloped contexts such as refugee camps. The long-term viability enhances the likelihood of integrating the framework into district and national education policies. By foregrounding sustainability as a critical pillar in the pursuit of access to online learning, the Framework of Action advocates for online learning initiatives that goes beyond episodic interventions.

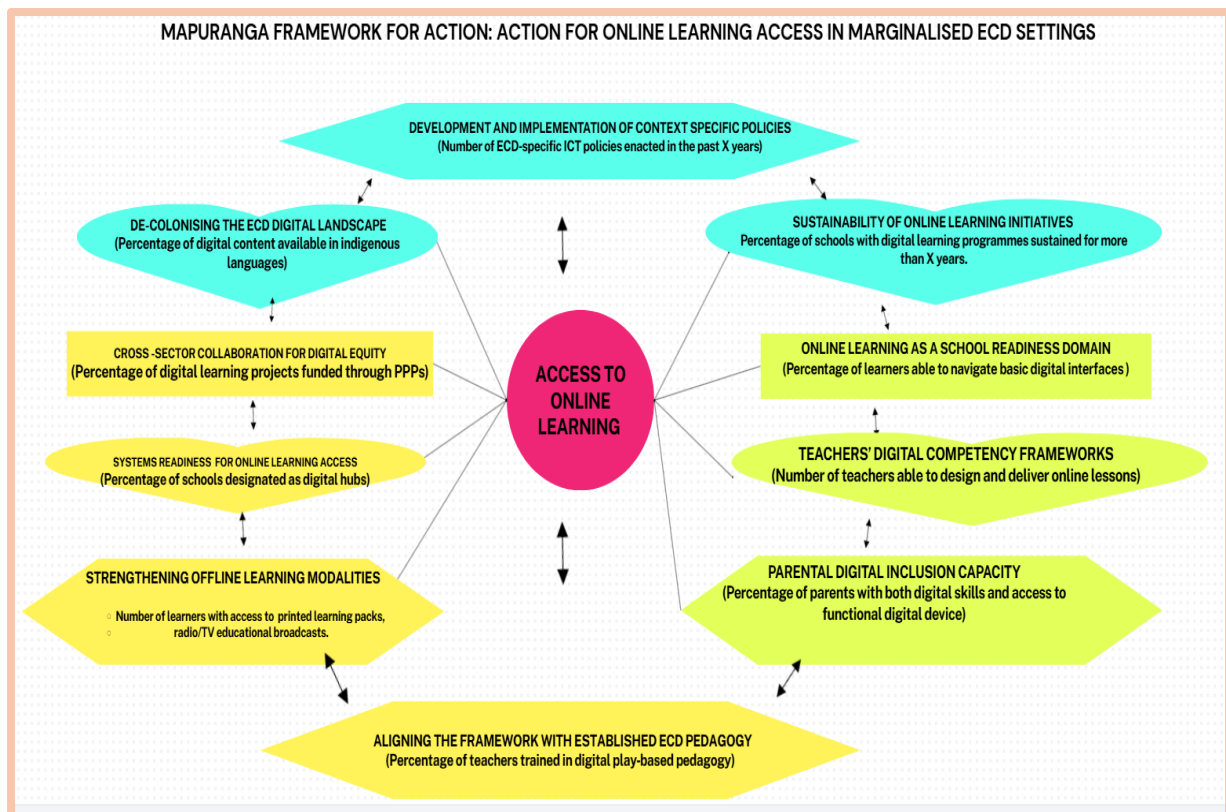
9.8 The Mapuranga Framework for Action (2025)

Informed by the research objective number five, which was to suggest, from the findings of the study, an online learning framework for action for overseeing sustainable online learning in marginalised ECD settings was developed to work as a tool for promoting access to digital learning. The framework emerged inductively from the lived experiences of the participants to improve access to online learning in marginalised ECD settings. It translates lived experiences into actionable strategies. This proposed framework is the Mapuranga Framework for Action which comprises of ten constructs as previously discussed. These constructs are interwoven as presented below:

9.9 The interrelationships of the Mapuranga Framework constructs

The Mapuranga Framework is underpinned by several interwoven constructs that feeds into and influence one another. These constructs do not operate in isolation but as a nested ecosystem where progress in one area catalyses progress across the entire framework. A closer examination of the framework reveals its collective aim to dismantle structural barriers through a cyclical process. This cyclical interconnectedness of the constructs highlights the reciprocal reinforcement among constructs to advance online learning access among young learners in marginalised ECD settings. A failure in any one domain of the Mapuranga Framework would risk rendering other domains ineffective, demonstrating the need to holistically apply this model. For instance, weak policy enforcement influences teacher capacity development, which in turn compromises children's school readiness and erodes the overall sustainability prospects. The success of the Mapuranga Framework hinges upon the holistic implementation of its dimensions. To fully realise the enduring impact of the Mapuranga Framework for Action, it has to be operationalised as a comprehensive and integrative approach. Below is pictorial representation of the Mapuranga Framework for Action.

9.10 Pictorial representation of the Mapuranga Framework for Action



Source: Compiled by the author on CANVA, Mapuranga (2025)

Fig 9.2 The Mapuranga Framework for Action model

The Mapuranga framework is a context-sensitive guide for addressing the persistent digital access gaps in marginalised ECD settings. My framework was developed based on the empirical evidence that digital learning in ECD is no longer a privilege but an inevitable platform for continuity of learning especially in crisis times, hence, all the multifaceted online learning barriers confronting this sector must be comprehensively addressed. The Mapuranga Framework for Action has several recommendations for online learning access and support for marginalised ECD settings that span from micro- to macro-levels (teachers, schools, parents, ministries, donors and telecoms. In the eyes of many, this may seem to risk diluting the actionable focus, however, the study prioritises focusing on the micro level interventions with digital skills and access to resources for those in the margins being the top priority. To improve the usability of the Mapuranga Framework, I recommend focusing on micro level, realistically implementable interventions such as revising the teacher -education curricula, piloting low cost blended ECD models and integrating digital equity into existing ECD policy.

The focus at the micro level systems would naturally take other levels, the meso and macro levels into action.

9.11 Theoretical basis for Mapuranga framework

Since I was dealing with a complex phenomenon of online learning realities at micro, meso and macro levels for underserved communities, the Mapuranga Framework for Action builds upon Bronfenbrenner's ecological systems theory (1979). This model contributes novel insights into digital access for marginalised ECD contexts. The model was explored in depth to provide an operational lens for the framework. Bronfenbrenner's ecological systems theory provides a conceptual lens for understanding how different environmental systems influence child development. The Mapuranga Framework builds upon this theoretical foundation and adopts a parallel trajectory by operationalising the ecological principles within a digitally inclusive paradigm tailored to ECD contexts. Bronfenbrenner, (1979) echoes that human development unfolds within nested systems of influence characterised by immediate interpersonal contexts and broader sociocultural forces. At the micro level, it empowers teachers, parents, and learners through digital competency, parental inclusion, and early digital readiness. At the meso level, it strengthens institutional collaboration and system readiness, ensuring schools function as digital hubs while integrating offline modalities to bridge connectivity gaps. At the macro level, it drives structural transformation through context-specific ICT policies, decolonized digital content, and sustainable pedagogical alignment. Together, these levels form a coherent, multi-layered strategy that transforms digital access from an isolated initiative into a systemic, equitable, and sustainable educational reform.

The Mapuranga Framework acknowledges and extends Bronfenbrenner's ecological systems as presented in chapter three into actionable constructs to accelerate online learning access in marginalised ECD settings. It recontextualises Bronfenbrenner's theory to address digital disparities in ECD thereby advancing systemic transformations in early learning environments.

9.12 The relationship between the Mapuranga Framework for Action and other online learning models

The Mapuranga Framework for Action has both similarities and differences with other existing online models. It has been compared to two models which are Community of Inquiry (CoI) and the Technological Pedagogical Content Knowledge (TPACK) Framework. These two models didn't form part of theories that informed data analysis but were identified to critically show how the Mapuranga Framework for Action relates to other theories in the field of digital learning.

9.12.1 Community of Inquiry (CoI) Framework

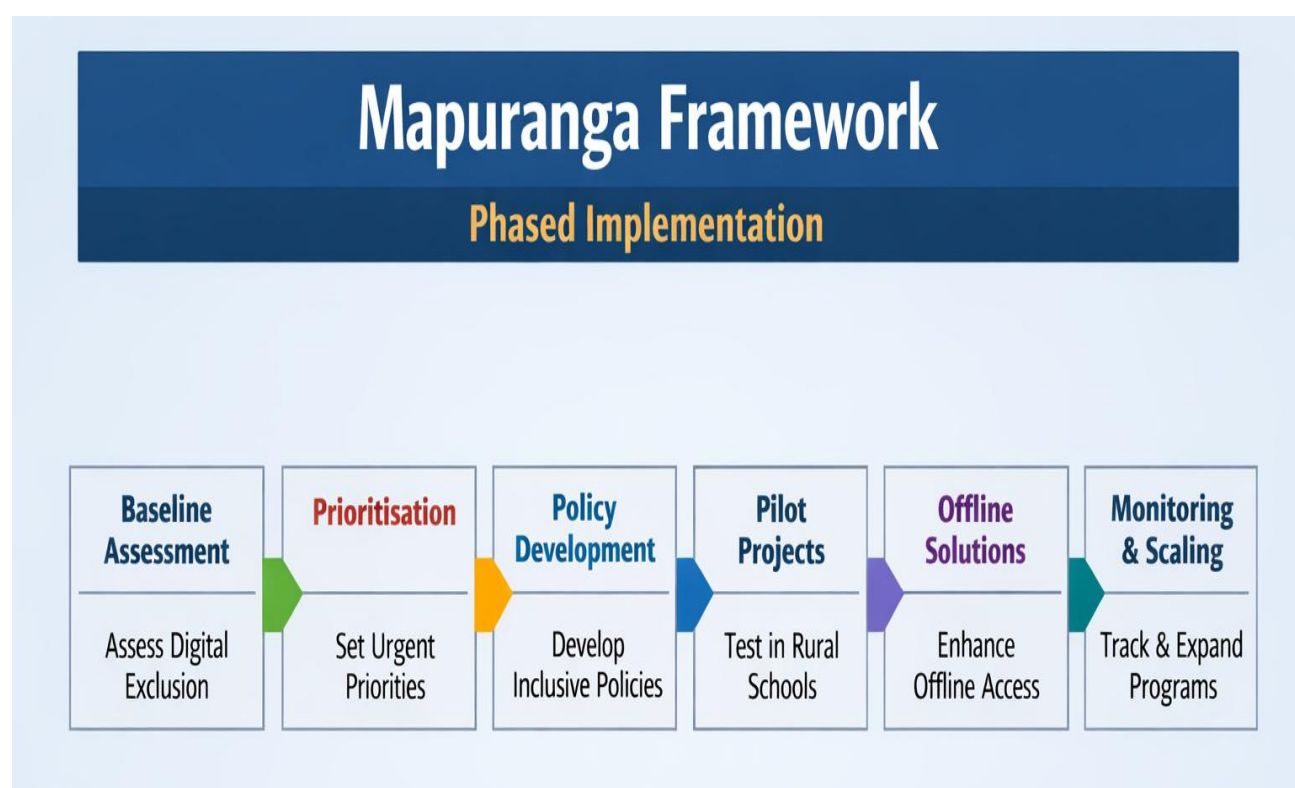
The Mapuranga Framework for Action was also built upon the Community of Inquiry (CoI) Framework developed by Garrison, Anderson, and Archer (2000). This framework offers guidance for designing and fostering meaningful online learning experiences. It cherishes the interplay of three presences: the teaching presence, social presence, and cognitive presence. The teaching presence provides guidance for the learning experiences, while the social presence advocates for a safe and collaborative space where learners' voice is heard and where an opportunity to interact with peers and content is offered. The social presence aligns with the learner voice, agency, and safety construct in the Mapuranga Model. The last component is the cognitive presence aimed at promoting children's deep thinking and inquiry. This domain supports learners in constructing meaning through reflection. The CoI framework, although helpful in developing digital skills in learners, offers less regarding access to online learning. The Mapuranga Framework hopes to close access gaps.

9.12.2 The TPACK Framework

The Mapuranga Framework for Action also draws inspiration from the Technological Pedagogical Content Knowledge (TPACK) Framework developed by Mishra and Koehler (2006). This model addresses the complex interplay between technology, pedagogy and content in teaching. Unlike the Mapuranga Framework which focuses on access to online learning for disadvantaged ECD learners, TPACK model may be adopted across different levels of education. It assists teachers in meaningfully integrating technology into specific subject areas. This model offers insights in the implementation of various constructs of the Mapuranga Framework. For learners to

develop the necessary digital skill and get ready to navigate online learning platforms, teachers need to master the online learning content, be familiar with digital tools and platforms and choose the appropriate methods to deliver the content. The TPACK model alone could not address access issues surrounding online learning in marginalised ECD settings; hence, the need for the Mapuranga Framework for Action, which extends TPACK to something robust for promoting online learning in underserved communities.

9.13 Practical implementation of the Mapuranga Framework



Source: Owner's own creation

Figure 9.3 The Mapuranga Framework for Action phased implementation plan

The phased application of the Mapuranga Framework begins with a baseline assessment, which is critical for establishing the extent of digital exclusion in marginalised ECD contexts. This diagnostic stage ensures that interventions are evidence-based and responsive to actual needs rather than assumptions. Following this, stakeholders must prioritise framework components, focusing on urgent areas such as teacher digital competency, parental inclusion, or device provision. This

prioritisation allows scarce resources to be directed toward interventions with the highest immediate impact.

The third phase involves developing context-specific policies that align with the framework's indicators. Such policies must explicitly address affordability, infrastructure mandates, and the production of indigenous language content to ensure inclusivity. Once policy foundations are established, pilot projects should be implemented in selected rural schools or communities. These pilots serve as testing grounds for feasibility and scalability, allowing stakeholders to refine strategies before national rollout.

Recognising that not all learners will have immediate access to devices or connectivity, the framework emphasises strengthening offline modalities such as radio, television, and printed learning packs. This ensures that digital inclusion efforts do not inadvertently deepen inequalities. Progress must then be monitored through measurable indicators, such as the percentage of teachers trained or schools sustaining digital programs, thereby embedding accountability into the implementation process. Finally, the application of the Mapuranga Framework for Action ends by scaling and expanding the piloted interventions to national levels.

9.14 Possible counterarguments to the Mapuranga Framework for Action

Anticipated counterarguments to the Mapuranga Framework for Action may revolve around feasibility, equity, cultural relevance, and sustainability. Critics may contend that resource constraints make full implementation unrealistic, yet the framework is deliberately designed for incremental adoption, beginning with pilot projects and gradually extending it to other contents to ensure that progress is achievable even in low-resource contexts. Others may argue that an emphasis on online learning risks widening inequality by excluding children without devices or connectivity; however, the framework explicitly integrates offline modalities such as radio, television, and printed packs to guarantee inclusion and prevent further marginalisation. Cultural resistance may also arise, with skeptics suggesting that digital learning undermines indigenous pedagogies, but the framework embeds decolonisation and alignment with established ECD pedagogy, ensuring that digital tools reinforce rather than replace local practices.

Finally, doubts about sustainability are anticipated, particularly in resource-poor environments, yet sustainability is a core indicator within the framework, requiring continuous monitoring of program longevity and encouraging the use of public–private partnerships to secure ongoing funding. In this way, the framework anticipates and addresses potential critiques, positioning itself as a pragmatic and culturally responsive roadmap for advancing digital justice in early childhood education.

9.15 Implications

This study has implications for policy, practice, theory and future research. The identified implications are presented below:

9.15.1 Policy implications

Based on the empirical findings, this study advocates for bottom – up policy development for both digital learning and teacher education. Policies are needed that compel schools to integrate online learning into ECD curriculum. This is consistent with Basu (2022)’s findings that educational equity can only be attained through the use of targeted policy interventions. The policies must specify how the existing digital divide will be handled and the funding options for implementing the online learning. Policies are also needed that compel schools to use the hybrid mode of teaching, where some days are dedicated to digital learning. This aligns with study findings by Liu, Qiang, and Zhou (2022), who emphasise that policy response to digital learning must address the digital divide through the adoption of multimodal hybrid technology approaches. This is critical for equipping children with the skills they need for online learning.

Zimbabwe used to rely on the international policy framework for addressing marginalisation and digital learning issues. Policy borrowing has been widely recognised as a pragmatic shortcut to reform (Gilbert and Pratt-Adams, 2022). In contrast, there is also literature criticising borrowing of policies based on the assumption that it has not been helpful in addressing the realities on the ground (Magunje and Chigona, 2021). The borrowed policies often lack contextual sensitivity, thereby failing to address the issue they target to tackle. In Africa, the adoption of e-learning frameworks that were meant for Western countries without addressing the

digital divide first accounts for the failures of such initiatives (UNICEF, 2021). Before adopting a policy, it is critical to ensure the availability of baseline infrastructure and digital skills across educational settings. This study argues that sustainable online learning in marginalised ECD settings requires policies that are informed by local realities. This aligns with OECD (2025)'s report that the implementation of online learning needs to be rooted in instructional approaches that respond to the diverse needs and contexts of learners. In reality, policy borrowing has led to top-down implementation of policies that overlook the lived realities of those in underserved communities. In most cases, policies developed at international level often fails to consider local knowledge, thus, there is a systematic devaluation of local knowledge in educational policy development. In the modern technological era, the dominance of online learning content in English further marginalises learners who speak indigenous languages. Makananise and Madima (2025) stresses that continued use of Eurocentric languages in digital content perpetuates colonial patterns of exclusion. The study calls for the revaluation of local knowledge when developing policies aimed at providing local solutions to local problems.

On teacher training institutions policies are needed to mandate students to attain digital skills before graduating. These skills can be attained during face to face teaching in colleges and universities as well as during practicum so that prospective teachers have a feel of their roles during online learning sessions. Teaching practice must have an online learning component where students are supervised while teaching online. Thus, there is need for a participatory policy approach because issues of access and support are so complex.

9.15.2 Practice Implications

The practice implications were guided by the question, what kind of professional development do teachers need to operate effectively in the online learning environments? Teachers need a heavily scaffolded framework that is supported by data, infrastructure and equipment. I therefore advocate for Continuous Professional Development (CPD) for teachers ensuring that they acquire the right set of skills needed for supporting digital learning with young children.

9.15.3 Theoretical Implications

The study adopted several theories to examine key issues of the study as presented in the conceptual framework. The study findings underscore the perpetuation of colonial legacies in online learning instruction. To challenge this, Post-Colonial Theory was adopted as a lens for explaining the colonial policies and practices that were foundational for today's digital divide. The theory was helpful in interrogating the structural inequalities between urban and rural communities. Post-Colonial Theory helped in framing the online learning disparities as systemic injustice which is beyond the technological gap that meets the eye. According to Tikly (2019) Post – Colonial Theory helps in challenging the educational policies and practices that fail to address historical marginalisation. This theory was also helpful in the development of the Mapuranga Framework for Action, which consists of decolonising the ECD educational landscape as one of the key pillars of the model. Post - colonial theory acknowledges the existence of dominant narratives or top – town policies that shape rural realities. However, my study findings demonstrate that marginalised populations actively resist and adapt to systemic constraints. This is a critical, original theoretical extension.

Actor Network Theory (ANT) was used to demonstrate that agency in online learning is not unique to human, non-human actors such as digital platforms, devices, electricity, and the internet also act as active participants in shaping digital learning realities. The findings of the study reveal that access to online learning improves through the coordination of different actors. This is consistent with Williams (2020)'s assertion that access improves when actors responsible for a given scenario coordinate towards a common goal. What this study did was to redraw the boundaries of who and what has power for moving the online learning initiatives forward. The study extends by arguing that issues of access and support to online learning for marginalised settings cannot be fully understood without examining the non-human actants that mediate the human struggles in online learning environments.

It emerged as a finding that teachers' beliefs shape the teaching and learning practices. This is consistent with Festinger (1957)'s Cognitive Dissonance Theory that highlights the psychological discomfort that teachers feel when their beliefs conflict the new societal demands. The theory assisted in explaining how the discomfort that

arises from teachers' conflicting beliefs influences their instructional choices. The study highlighted that teachers' classroom practices tend to mirror the beliefs that they hold (Harrison and Correia, 2020) with those who hold positive beliefs openly accepting the online learning instruction and those who hold reservations resisting it. The study findings however, extends this by showing that teachers may be forced to alter their long-held beliefs in cases where new societal mandates emerge.

Finally, the understanding of the policy landscape in online learning education for marginalised ECD settings and the need for systems change was informed by Bronfenbrenner's Ecological Systems Theory. Bronfenbrenner's theory assumes that access to digital learning in underserved communities is influenced by multiple systems (Bronfenbrenner and Evans, 2000). It is therefore critical to develop policies that transform the digital learning ecosystems for young learners. At the micro level, policies and transformational initiatives are needed to promote online learning resource provision in locations with limited resources, such as digital devices and the internet (James, 2021). Policies may as well target the acquisition of digital skills by parents and teachers to create a seamless online learning environment free of digital literacy gap issues. This was supported by Samane-Cutipa, Quispe-Quispe, Talavera-Mendoza, and Limaymanta (2022), whose study highlighted the need to urgently develop educational policies to address the digital gaps currently obtaining in marginalised communities. At the mesosystem level, policies should promote the interaction of families and schools, making these social institutions ready for early digital learning provisions. Schools should do their best to ensure that families are geared up to assist their children during online learning sessions. School policies are also need that mandate teachers to use hybrid mode of teaching. At ecosystem level, the government through policies needs to guarantee that subsidies are available for schools so that schools have access to internet all the time. The current study extends the ecological systems theory to the field of digital learning.

9.15.4 Future research work

The Mapuranga Framework of action is newly developed and is yet to be tested empirically across diverse marginalised ECD settings. There is a need for more contextualised studies as part of future empirical validation studies due to the complexity of the marginalised contexts. Based on this background, validation studies

are needed to test the framework's constructs in real-world marginalised ECD contexts. Future research work must also explore how the framework affects equity outcomes for various marginalised groups, as well as inform budget allocations and national digital education strategies. This can be achieved through offering policy briefs, stakeholder mapping and advocacy toolkits.

9.16 Limitations of the study

The infrastructural barriers made it challenging to engage the hard to reach sections of the marginalised communities. This necessitated the use of convenience sampling that provided a pragmatic option for adapting to infrastructural barriers and recruit those accessible and willing to participate. However, this methodological option creates room for not representing those in the hard to reach localities. In this study, convenience sampling was used in combination with purpose sampling to provide a methodological triangulation that reduces the limitation of using convenience sampling alone. The proposed Framework for Action is newly developed and is yet to be tested empirically across diverse marginalised ECD settings. Thus, the framework remains largely theoretical; as a result, its generalisability remains limited.

9.17 Originality of contribution

The Mapuranga Framework for action is the original contribution of the study and to the field of digital learning. The study contributes significantly to the field of digital learning by proposing a framework for action which provides rich areas for further validation studies. It added knowledge to digital learning for marginalised ECD contexts which is limited in literature. It contributes originally to the field by introducing new constructs that are normally underrepresented or entirely absent in existing online learning models, especially for marginalised contexts. These include systems readiness for online learning, addition of online learning to traditional school readiness domains, strengthening offline learning modalities as well as consistency in driving digital initiatives.

The framework also provides a new practical approach to address online learning access concerns for marginalised ECD learners. Instead of offering a generic set of recommendations, the Mapuranga Framework works as a multi-level operational

guide that can be applied diagnostically to assess readiness across its components, or used prescriptively to design interventions tailored to ECD contexts. The current model has potential implications for expanding digital inclusion theories.

One notable contribution of the Mapuranga Framework to research is its flexibility to be applied in both qualitative and quantitative research studies. For qualitative studies, it is advisable to identify framework components as constructs, and variables for a quantitative study. The addition of indices and scores allows for quantitative exploration of the framework components, prompting statistical empirical work on such variables.

To theory, the Mapuranga Framework of action updates Bronfenbrenner's model for the 21st century digital era, showing how they can be adopted for digital access in marginalised ECD settings. For policy, the framework sets direction for developing policies that inform teacher training programme design as well as giving the structure for embedding continuity within national budgets, policies and monitoring mechanisms. My framework offers a novel practical pathway for promoting online learning equity in ECD settings that is both theoretically informed and operationally actionable. Conclusively, given the small and context-specific sample for this study, it was critical to take a more cautious positioning of the framework and declare that the Mapuranga Framework for action is a context-generated, empirically informed, yet a provisional model that requires piloting and validation in other settings.

9.18 Concluding Remarks

This thesis focused on the lived experiences of access and support to online learning among learners in marginalised ECD settings to address prevailing digital access constraints. The study revealed that online learning initiatives established for underserved communities are often episodic and often emerge as reactive short-term responses to a crisis. To this end, it is imperative to develop and implement digital initiatives with sustainability in mind. The findings illuminate that teachers in marginalised ECD settings often lack digital skills to work in online learning environments. These digital fluency gaps necessitate the development of a teacher's digital framework. Such a framework should be adopted in teacher training

programmes, mandating trainee teachers to graduate with a set of digital skills needed in an online learning environment for ECD learners. The digital skills gap also emerged as a salient theme for parents and caregivers. This limitation hinders them from effectively assisting their children during online learning sessions. Consequently, digital learning initiatives that a nation wishes to roll out for the marginalised communities must account for family-level digital constraints through parent training programs.

Moreover, the study results identified a significant lack of digital skills among ECD learners themselves, further complicating access to online learning in marginalised ECD settings. Addressing this gap by incorporating online learning in ECD curriculum is critical for moving the online learning agenda forward. As a counter strategy to the identified challenges, the study advocates for the adoption of a hybrid learning model, creating a balance between online and offline modalities. The study, however, noted that the offline learning modalities are often underrepresented in online learning discourse.

The study findings point to the erosion of play-based pedagogy, which is foundational to ECD during transitions to online learning. Thus, play-based pedagogy needs to be embedded in online learning frameworks that aspire to promote access to online learning. The empirical evidence from the study further highlights a significant gap in digital preparedness across different ecological layers. This calls for urgent systemic transformations ensuring that families, community, government and other stakeholders are ready to promote digital learning in marginalised ECD settings. Finally, the study surfaces the perpetuation of colonial legacies within the post-colonial education system as reflected in policy and practice that continues to shape online learning trajectories.

The results contribute to the field of digital learning by proposing a framework of action, which, when adopted for marginalised communities, will make online learning access a reality in such contexts. The study although rich in depth, some limitations remain, such as difficult in generalising the study to other marginalised settings as a result of heterogeneity in policies, online learning resources and community dynamics. In addition, use of purposive and convenience sampling methods may limit the representativeness of broader marginalised ECD settings. Despite all these

limitations, the work, particularly the Mapuranga Framework of action, opens new pathways for future work, including interrogating not only access but the conditions under which online learning can be sustainably realised for learners in marginalised ECD settings. Thus, longitudinal studies are needed to understand what sustains online learning in marginalised communities. Studies are needed to track how the incorporation of online learning as a school readiness domain prepares learners for digital learning. Future studies should as well focus on offline learning modalities, interrogating ways of making this learning mode a sustainable route for guaranteeing continuity of learning in marginalised ECD communities during crisis periods. In addition, future studies should examine how play, indigenous narratives and local languages are embedded in online learning modalities. There is a need for future work to explore how government models and partnership dynamics collectively impact access to digital learning. This can be done through network analysis and stakeholder mapping. Furthermore, future studies need to validate policy implementation across different contexts to understand how policy intentions translate into practice. This is critical to see gaps between design and delivery. Finally, research should closely examine the decolonisation of the ECD education landscape to explore how colonial legacies are reproduced and offer new insights on the decolonisation process.

In summary, this study situates online learning within global educational discourse, highlighting the structural barriers that constrain its operationalisation in marginalised ECD settings, and responds to a critical research gap. By foregrounding lived experiences, it contributes to the development of inclusive frameworks that can guide sustainable policy and practice, ensuring that digital learning becomes a tool for equity rather than exclusion.

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Appendices

Appendix A: UNISA research ethics approval



UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2023/06/07

Ref: **2023/06/07/10229140/26/AM**

Name: Mr E Mapuranga

Student No.: 10229140

Dear Mr E Mapuranga

Decision: Ethics Approval from
2023/06/07 to 2028/06/07

Researcher(s): Name: Mr E Mapuranga
E-mail address: 10229140@mylife.unisa.ac.za
Telephone: +267 76760974

Supervisor(s): Name: Prof HB Ebrahim
E-mail address: ebrahnb@unisa.ac.za
Telephone: 0847832071

Title of research:

Lived experiences of access and support to online learning in early childhood settings in the Buhera District in Zimbabwe

Qualification: PhD Early Childhood Education

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2023/06/07 to 2028/06/07.

*The **medium risk** application was reviewed by the Ethics Review Committee on 2023/06/07 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



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3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
8. No field work activities may continue after the expiry date **2028/06/07**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2023/06/07/10229140/26/AM** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,



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



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



Approved - decision template – updated 16 Feb 2017

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Appendix B: Certificate of language editing



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CERTIFICATE OF THESIS EDITING AND PROOF-READING

This certificate confirms that a Thesis belonging to

ENOCK MAPURANGA

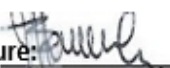
was edited and proofread at Errybee's Editing and Proofreading Consultancy Centre. The following issues were corrected: grammar, punctuation, spelling, phrasing, style, sentence structure and paragraphing.

Thesis Title

LIVED EXPERIENCES OF ACCESS AND SUPPORT TO ONLINE
LEARNING FOR MARGINALISED EARLY CHILDHOOD SETTINGS IN THE
BUHERA DISTRICT IN ZIMBABWE

Date Issued:
27/09/2025

Editor: MR. ERENCE KAGISO NKWE

Signature: 

Appendix C: Approval from Ministry of Primary and Secondary Education and sites school heads

THE HEAD
MURAMBINDA B PRIMARY SCHOOL

09 NOV 2023
Mhuruyengwe

All communications should be addressed to
The Secretary for Primary and Secondary
Education P.O. Box 121 Causeway
Harare 025-206 2244
Telephone: 794895
Telegraphic address: "EDUCATION"



ZIMBABWE

Reference: C/426/3
Ministry of Primary and
Secondary Education
P.O. Box CY 121
Causeway
HARARE

06 July 2023

03 OCT 2023
P.O. BOX 146, MUTARE
ZIMBABWE TEL: 02064223

Enock Mapuranga
University of South Africa
P.O.Box 392
UNISA 0003
South Africa

THE HEAD
MAKWIRAMITI PRIMARY SCHOOL

07 NOV 2023

BOX 290
MURAMBINDA

DSI - Buhara
Please refer to
MARIME PRIM SCHOOL
07 NOV 2023
BOX 17
BUHERA
THE HEAD
BUHERA VILLAGE PRIMARY
BOX 25, BUHERA
SIGNATURE:

RE: PERMISSION TO CARRY OUT A RESEARCH IN MANICALAND PROVINCE: BUHERA DISTRICT: BUHERA VILLAGE NGUNDU; NECHAVAYA MURAMBINDA B; MAKWIRAMITI AND CHATINDO PRIMARY SCHOOLS

Reference is made to your application to carry out research from the above-mentioned district schools on the research title:

"LIVED EXPERIENCES OF ACCESS AND SUPPORT TO ONLINE LEARNING IN MARGINALISED EARLY CHILDHOOD SETTINGS IN BUHERA DISTRICT IN ZIMBABWE."

Permission is hereby granted. However, you must liaise with the Provincial Education Director of Manicaland Province who is responsible for the schools in which you want to involve in your research. You should ensure that your research work does not disrupt the normal operations of the schools. Where students are involved, parental consent is required.

You are also required to provide a copy of your final report to the Secretary for Primary and Secondary Education.

07 NOV 2023
BOX 290
MURAMBINDA

THE HEAD
CHIKUVIRE PRIMARY SCHOOL
P.O. BOX 19 BUHERA

DATE: 10/11/23 *[Signature]*

PERMANENT SECRETARY
MINISTRY OF PRIMARY AND
SECONDARY EDUCATION

26 JUL 2023

P.O. BOX CY 121 CAUSEWAY
HARARE, ZIMBABWE

T. Thabela (Mrs)

SECRETARY FOR PRIMARY AND SECONDARY EDUCATION

THE HEAD
CHATINDO PRIMARY SCHOOL

09 NOV 2023

BOX 58
BUHERA

07 NOV 2023
P.O. BOX 200 MURAMBINDA
TEL: 021-227 7221

Permission granted.

Appendix D: Consent letter from the participant

CONSENT TO PARTICIPATE IN THIS STUDY (Return slip)

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

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

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

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

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

I agree to the recording of the semi-structured interview.

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

Participant Name & Surname (please print)

HA TI

5-11

08 / 11 / 2023

Participant Signature

Date

Researcher's Name & Surname (please print)

ENOCK MAPURANGA

Mapuranga

18/11/2023

Participant Signature

Date

Appendix E: A sample of observation data from school A

OBSERVED ITEM	Schools and Teachers observed					
	SCH A	SCH B	SCH C	SCH D	SCH E	SCH F
	TR 1	TR 3	TR 5	TR 7	TR 9	TR 11
Computer Lab	✓	✗	✗	✗	✗	✗
Internet/Wifi	✓	✓	✗	✗	✓	✓
Sustainable subscriptions to internet	✓	✗	✗	✗	✗	✗
Desktop/laptops/tablets for learners	✓	✗	✗	✗	✗	✗
Electrified classrooms	✓	✓	✗	✗	✗	✗
Network booster closer to the school	✓	✗	✓	✗	✗	✓
Teachers competent in using ICTs	✗	✓	✗	✗	✗	✗
Learners could navigate ICT devices	✓	✗	✗	✗	✗	✗
The school has online learning content for ECD learners	✗	✗	✗	✗	✗	✗
The community values use of ICT by their young children	✓	✓	✗	✗	✓	✗
Computer hardware and software are available in local shops at reasonable prices	✓	✗	✗	✗	✗	✗
Teachers infused online learning into their teaching practices and assisted their learners to use ICTs	✓	✗	✓	✗	✗	✗

Appendix F: A sample of interview transcript from school head 1

Section A: Beliefs of Online Learning in ECD

1. What does online/digital learning mean to you?

Online learning is a strategic tool that allows flexible access to educational content using digital platforms. It supports continuity of learning beyond the physical classroom.

2. Can you kindly share your thoughts regarding the benefits of introducing online learning at early childhood level?

I think the integration of online learning in ECD curriculum may bring with it the advantage of developing young learners' digital skills needed in the workplace in the digital era. Online learning also allows for a constant flow of information, especially in difficult times, and serves as an information-sharing platform to curb the spread of the pandemic.

3. Kindly share with me the basis of the perceptions you hold regarding the significance of online learning in ECD settings

The preparedness of schools in terms of digital infrastructure and the readiness of teachers and parents to assist children with online learning affect the ways teachers perceive online learning in ECD. If everything looks ready and in place, as teachers, we will definitely hold positive beliefs

4. Share with me whether engaging ECD learners in online learning is appropriate

In my opinion, engaging young learners in online learning is not debatable, we are in 21st century where technological skills decide one's destiny, therefore, engaging learners in online learning is a must.

5. Kindly discuss the relationship between your early childhood online learning beliefs and your teachers' actual classroom practices.

I think beliefs drive action. Teachers' beliefs influence their choice of teaching strategies. Teachers with positive online learning beliefs, who believe in its

effectiveness, are more likely to advocate and use more technology-based activities in their teaching processes.

6. What obstacles do your teachers face in applying their online learning beliefs practically in the classroom?

Despite holding positive beliefs of online learning in early childhood, lack of digital infrastructure and skills may hinder teachers from turning their beliefs into classroom practices.

Section B: Policies for online learning and mitigating marginalisation in ECD settings

7. Kindly share how the following colonial policies and practices contributed to the marginalisation of rural communities i) Language and indigenous knowledge system neglect ii) Urban –rural bias iii) Privilege for the rich

i) Language and indigenous knowledge system neglect

In terms of language and indigenous knowledge system neglect, colonial masters imposed a language policy that eroded local languages and cultures and local children were forced to learn using foreign languages.

ii) Urban –rural bias

During the colonial era the urban bias manifested in priorities given to urban development leaving rural communities undeveloped

iii) Privilege for the rich

Colonial-era policies and practices often limit access to quality education for remote rural areas, making education accessible to the rich children only and this disparity persists even today, and has a bearing on the extent to which marginalised communities access online learning.

8. Can you tell me about policies or guidelines that exist to address issues of digital marginalisation in ECD?

I am not aware of the policies specifically focusing on improving access to online learning for ECD learners in underserved communities. Currently, there are general

education policies, but few specifically address digital access for ECD learners. More targeted frameworks are needed.

9. Kindly share any initiatives or policies that have been implemented to address or mitigate marginalisation?

Policies exist that seek to address school related marginalisation. These include the Basic Education Assistant Module (2001), Free and Compulsory Education (2013) as well as the Education Act of 2020 as amended

10. From your experience as school head, do these policies adequately address the unique needs and challenges faced by marginalised communities?

In my opinion, the existing policies are not effectively addressing the digital divide which is a significant pre-requisite for accessing digital learning. The existing policies suffer from shortages of funds and are not specific to the online learning realities on the ground. The Constitution of Zimbabwe provides strong guarantees to learners in poor families; however, it lacks clarity on how rights are to be implemented particularly in marginalised communities. Similarly, policies on disability such as the Disabled Persons Act of (1992) are out-dated and does not address early childhood inclusive education frameworks.

Section C: Online learning challenges of the margins

11. What does marginalisation (being left out) mean to you?

Marginalisation is a social way of neglecting some people who need community access to resources. The neglect is unjust and unfortunate especially for a country full of mineral resources.

12. From your lived experiences in school management, describe digital literacy gaps that ECD teachers have that need to be addressed.

Teachers need training in basic ICT use, online safety, content creation, and managing virtual classrooms.

13. What are some of the main challenges you face as a school head when trying to implement developmentally appropriate ECD online learning in marginalised communities?

Lack of electricity, internet, devices, and digital skills among staff and parents are major barriers.

Section D: Addressing barriers to online learning access for ECD learners situated in marginalised communities

14. Kindly share possible sustainable strategies for addressing marginalisation in remote rural areas.

In my opinion, marginalisation can be permanently addressed through government will and commitment. The government need to rely on scholarly work or contact research of its own to offer intervention strategies tailored to the realities on the ground. The reality on the ground is that schools do not have electricity, internet, digital skills and funds to afford monthly subscription of the internet. A national address of these disparities guarantees a sustained online learning provision for marginalised communities.

15. What should be done to policies/systems to address access and support to online learning for learners in marginalised ECD settings?

i) Colonial policies and practices:

Replace exclusionary systems with inclusive, locally relevant education models.

ii) Family or parental system:

Empower parents with digital literacy and awareness programs.

iii) School system:

Equip schools with devices, internet, and digital safety protocols.

iv) National policies and systems:

Ensure consistent funding and implementation of digital education policies.

v) Teacher training systems:

Revise curricula to include ICT skills and digital pedagogy for ECD teachers.

16. From a management perspective, what are the key issues that are important to address for online learning in ECD?

We must plan for digital integration, budget for devices and training, and create safe digital environments tailored to young learners' needs

Appendix G: A sample of interview transcript from teacher 1

Section A: Beliefs of Online Learning in ECD

1. What does online/digital learning mean to you?

In my opinion, online learning is education done through use of computers

2. Can you kindly share your thoughts regarding the benefits of introducing online learning at early childhood level?

Online learning is not appropriate for early childhood learners since it has some negative impact on children's health development.

3. Kindly share with me the basis of the perceptions you hold regarding the significance of online learning in ECD settings

My views come from my experience with online learning during my professional development training. I used online platforms and I enjoyed the flexibility this gave me. Young learners of today have skills to navigate technological devices in surprising ways, using instructional methods that use devices they enjoy can achieve the desired results.

4. Share with me whether engaging ECD learners in online learning is appropriate

Yes, it is quite appropriate; however, barriers to access need to be addressed.

5. Kindly discuss the relationship between your early childhood online learning beliefs and your actual classroom practices.

I use my personal laptop to develop digital skills in learners to prepare them for any possible shift to online learning.

6. What obstacles do you face in your efforts to apply your online learning beliefs practically in the classroom?

I seem to hold beliefs that contradict those of the school management. The school administrators are not doing enough to create an enabling environment for online learning. The school has no internet connection and the electricity to power the digital

devices during online learning. This makes it difficult for me to put my beliefs into practice.

Section B: Policies for online learning and mitigating marginalisation in ECD

7. Kindly share how the following colonial policies and practices contributed to the marginalisation of rural communities i) Language and indigenous knowledge system neglect ii) Urban –rural bias iii) Privilege for the rich

i) Language and indigenous knowledge system neglect

Colonial policies, especially for the education sector, set English language as the medium of instruction in schools without considering the challenges this may bring, especially to the young children who were not familiar with this mode of instruction.

ii) Urban –rural bias

I think that the developmental policies of the colonial times prioritised urban developments and could not do much for rural development. The roots of urban bias are still fresh since offshoots of this kind of bias are seen in our communities today and stand as the foundation for today's limited access to digital resources for marginalised communities

iii) Privilege for the rich

During the colonial era, only learners from wealthy families had access to early learning opportunities. In the contemporary times, online learning is following the same trajectory as it is accessed only by those with money who can afford data and devices.

8. Can you tell me about policies or guidelines that exist to address issues of digital marginalisation in ECD? (E.g. resources, infrastructure related to online learning)

I am not aware of any specific policy in Zimbabwe that focuses on addressing digital marginalisation for young learners at ECD level.

9. Kindly share any initiatives or policies that have been implemented to address or mitigate marginalisation?

To fight educational marginalisation, the Education Act (2020) as amended has clauses that prohibit exclusion of learners from school due to non-payment of fees or due to pregnancy.

10. From your experience, do these policies adequately address the unique needs and challenges faced by marginalised communities?

Not fully. Many areas still lack electricity, internet, and trained staff.

Section C: Online Learning Challenges of the Margins

11. What does marginalisation (being left out) mean to you?

Marginalisation refers to the exclusion of some people in society, depriving them of access to essential amenities crucial for their survival.

12. From your lived experiences as a teacher, describe digital literacy gaps that ECD teachers have that need to be addressed.

Teachers need to have basic computer skills for working in online learning, currently, teachers do not have such skills. They need skills to develop online learning content tailored to young children.

13. What are some of the main challenges faced by marginalised ECD settings when it comes to accessing online learning opportunities?

Teachers, parents and learners need to have some digital literacy to navigate the online learning landscape. In most remote rural communities these skills are absent. Access to online learning requires connectivity to electricity and internet, yet these resources are not available in most of our schools.

Section D: Addressing barriers to online learning access for ECD learners situated in marginalised communities

14. Kindly share possible sustainable strategies for addressing marginalisation in remote rural areas.

In my view, without serious commitment to end marginalisation from the government, marginalisation will remain the national concern. The Free and compulsory education that was developed to provide opportunities for educational access for poor learners

can only be a reality if funds are made available for this mission. Similarly, the feeding programme, although a good initiative to ensure every child enjoys a hot meal at school, its reliance in the community

15. What should be done to policies/systems to address the issue of access and support to online learning for learners in marginalised ECD settings? In your answer kindly refer to

i) Colonial policies and practices

In terms of addressing colonial policies that disadvantaged the colonised communities, there is need to de-colonise the education system, replacing it with inclusive, community-based approaches.

ii) The family or parental system –

The family system needs to be empowered in terms of digital skills. Without these skills, parents could not engage meaningfully with their children's online learning.

iii) The school system –

The school system must be made ready for children's online learning by having national policies that compel them to shift to digital learning and by equipping them with devices and the internet.

iv) The national policies and systems

At national level, funds should be allocated for rural digital education. The nation needs to be consistent in terms of implementing its policies. Online learning for marginalised communities cannot be attained through episodic responses as seen during the COVID-19 pandemic.

v) Teacher training systems

The teacher training systems need to strengthen digital skill development among the trainee teachers so that they graduate digitally competent teachers

Appendix H: A sample of coded data

Interview question	Transcript	Codes	Themes
Can you kindly share your thoughts regarding the benefits of introducing online learning at early childhood level?	Tr 1 There is a constant flow of information even in difficult times as a result of using online learning, which serves as an information platform during crises and delivers essential content to students, teachers, and parents. Holistic child development is fostered through online learning, offering a well-rounded educational experience that goes beyond academics to address social, emotional, and cognitive aspects. Tr 2 In crisis periods, online learning becomes a lifeline for continuity, enabling learners to stay connected to education despite disruptions like pandemics or natural disasters. Online learning integration prepares young learners for a technology-driven era, recognizing the significance of digital skills as essential for success in various professional domains. Online learning provides access to a diverse array of multimedia resources like videos, games, e-books, and digital stories, enriching the learning experience with increased engagement and depth. Tr 3 In times of crisis, online learning can serve as a platform for information sharing, benefiting students, teachers, and parents alike while keeping the flow of knowledge unimpeded. In times of health crises, online learning offers a secure substitute for in-person classes, minimizing the risk of exposure to illnesses and guaranteeing the uninterrupted flow of education. Online learning broadens the spectrum of available multimedia resources, encompassing videos, games, e-books, and digital stories, thereby amplifying the engagement and depth of the learning experience. Tr 4 Online learning serves as a lifeline during crisis periods, ensuring continuity by enabling learners to stay connected to education despite disruptions such as pandemics or natural disasters. During health crises, online learning functions as a secure alternative to traditional classes, decreasing the potential for exposure to illnesses and maintaining the continuity of education. Tr 5 Ensuring an uninterrupted flow of knowledge throughout hard times, online learning serves as an information hub and distributes essential content to learners, instructors, and parents. The inclusion of online learning in education equips young learners for a world dominated by technology, where digital skills are fundamental for success in a multitude of fields.	Access to Multimedia Resources: Accessibility for Learners with Disabilities: Continuity of Learning in Crisis Times: Holistic Child Development: Preparation for a Technology-Driven World: Alternative During Health Crises:	Access to Multimedia Resources: This theme relates to how online learning can provide learners with a variety of multimedia resources, such as videos, games, online books, and digital stories that can enrich the learning experience with increased engagement and depth. Accessibility for Learners with Disabilities: This theme relates to how online learning can improve the accessibility and usability of learning resources for learners with disabilities or special needs, by providing them with subtitles, captions, transcripts, audio descriptions, or alternative formats. Online Learning in Times of Crisis: This theme relates to how online learning can provide a solution for learners who face challenges or interruptions in their education due to crises such as pandemics, natural disasters, conflicts, or poverty. Online learning can ensure the continuity and quality of education, as well as the safety and well-being of learners, by reducing the risk of exposure to illnesses and offering a reliable alternative to face-to-face classes. Online learning can also facilitate information sharing and communication among learners, teachers, and parents, as well as access to a variety of multimedia resources, during crises. Holistic Child Development: This theme relates to how online learning can support the holistic development of learners, by addressing not only academic but also

	Tr 6 Online learning contributes to holistic child development by providing a comprehensive educational experience that extends beyond academics, addressing physical, social, emotional, and cognitive dimensions. Young learners, through the integration of online learning, gain better preparation for a technology-driven landscape, where proficiency in digital skills is a key factor in success across diverse sectors. Tr 7 Holistic child development is advanced through online learning, offering a well-rounded educational experience that surpasses academics to address child development aspects. Online learning becomes a reliable alternative to face-to-face classes in health crises, mitigating the risk of illness exposure and securing the continuous delivery of education. Tr 8 Teachers and learners all benefit from online learning's ability to provide a steady stream of information even in the face of disasters. When health crises occur, online learning provides a secure substitute for in-person classes, diminishing the likelihood of exposure to illnesses and ensuring the uninterrupted progression of education. Tr 9 Integrating online learning ensures that young learners are well-equipped for a technology-driven world, where proficiency in digital skills is crucial for success across diverse fields. Online learning, in times of health crises, acts as a safe alternative to in-person classes, minimizing the risk of exposure to illnesses while maintaining the consistent provision of education. Tr 10 By integrating online learning, young learners are aptly prepared for a technology-centric world, recognizing that mastery of digital skills is indispensable for success across different fields. During crisis periods, online learning becomes a crucial avenue, preserving continuity as learners stay connected to education despite disruptions such as pandemics or natural disasters. Tr 11 By embracing online learning, holistic child development is promoted through a well-rounded educational experience that extends beyond academics, encompassing social, physical, emotional, and cognitive dimensions. Online learning works good for learners with disabilities as it allows them to learn from home. Tr 12 In times of crisis, online learning can serve as an information platform that provides learners with disabilities with essential content, maintaining a steady flow of knowledge despite the difficulties. Online learning plays a role in supporting holistic child development by delivering a well-rounded educational experience that extends beyond academics to include social, emotional, and cognitive aspects.	social, emotional, and cognitive aspects of learning. Online learning can also promote learners' agency, creativity, critical thinking, health, and well-being. Preparation for a Technology-Driven World: This theme relates to how online learning can enhance learners' digital skills, which are increasingly important for success in the 21st century. Online learning can also expose learners to different perspectives and cultures, fostering global citizenship and intercultural understanding.

Appendix I: Document review data

Policy Name	Access to Online Learning	Gender Equity	Disability Inclusion	Poverty Eradication & Education Access	Health Access	Affordability Measures
Constitution of Zimbabwe (2013)	Recognizes right to education and information	Guarantees equal rights for all genders	Protects rights of disabled persons	Education as a constitutional right Has clauses on free and compulsory education	Health as a constitutional right	Not explicitly defined
Education Amendment Act (2020)	Clause exist on use of emerging technologies	Prohibits discrimination ; protects pregnant girls	Defines special needs education	Guarantees free basic education	Mentions school health services	Emphasis on Free basic education
Zimbabwe Early Learning Policy (ZELP) (2024)	Promotes low-cost digital tools (radio, flash drives)	Prioritizes girls and rural learners	Targets disabled children in ECD	No-cost ECD enrolment	Encourages health awareness in early learning	Affordability linked to free enrolment and inclusive targeting of underserved groups
National Disability Policy (2021)	Advocates for accessible ICTs and infrastructure for those with disabilities	Gender-sensitive disability inclusion	Comprehensive inclusion across sectors	Inclusive budgeting for education access	Inclusive health services promoted	Affordability embedded in inclusive budgeting; not tool-specific but cross-sectoral
National GBV Strategy (2023–2030)	Promotes safe online spaces; addresses digital GBV	Focus on women, girls, and vulnerable communities	Addresses intersectional vulnerabilities	Supports empowerment and protection	Mental health and trauma services included	No direct affordability tools
National Development Strategy (NDS1) (2021–2025)	ICTs prioritized for education and development	Prioritizes women, youth, and disabled persons	Inclusion in national development goals	Promotes inclusive education and digital access	Health sector modernization included	Affordability implied through strategic access goals; not detailed in financial terms

Policy Name	Access to Online Learning	Gender Equity	Disability Inclusion	Poverty Eradication & Education Access	Health Access	Affordability Measures
Gender Mainstreaming Policy (2025)	Promotes digital inclusion and equity	Central focus on gender-responsive planning	Targets disabled women and rural communities	Advocates equitable education access	Gender-sensitive health services encouraged	Affordability embedded in gender-responsive budgeting and equitable resource allocation
Education Sector Strategic Plan (ESSP) (2021–2025)	ICT integration in schools; rural connectivity targeted	Prioritizes girls and inclusive teaching	Focus on disabled learners	Budgeted support for vulnerable learners	Health education integrated	Affordability addressed through strategic budgeting and support for vulnerable groups
Vision 2030 (2018)	Emphasizes broadband expansion and digital transformation	Promotes inclusive economic growth	Indirect support via inclusive development	Universal education access as a goal	Health access part of development vision	Affordability not explicitly defined
School Health Policy (2018)	Supports digital health education tools	Focus on adolescent girls and vulnerable learners	Promotes inclusive health practices	School-based health services support attendance	Free health services in schools	Affordability embedded in health service provision; reduces indirect costs of education
Statutory Instrument 5 of 2006 (Feeding Programme)	No digital provisions	Targets vulnerable learners including girls	Indirect inclusion via food support	Free school meals improve attendance and access	Nutrition and health support in schools	Affordability directly addressed through free meals; supports education retention in low-income areas

Appendix J: Turnitin Report

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