

https://dspace.org/

The implementation and adoption of information and communication technologies for remote learning within South African private schools

Lekoto, Ntlabo Samuel

2022

University of the Witwatersrand, Johannesburg

https://hdl.handle.net/10539/40418

Lekoto, Ntlabo Samuel . (2022). The implementation and adoption of information and communication technologies for remote learning within South African private schools [Master' s dissertation, University of the Witwatersrand, Johannesburg]. WireDSpace.https://hdl. handle.net/10539/40418

Downloaded from a DSpace repository. https://dspace.org/

The implementation and adoption of information and communication technologies for remote learning within South African private schools

Ntlabo Samuel Lekoto

722771

A thesis submitted in fulfilment of Master of Business Administration degree to the Faculty of Law and Management, University of the Witwatersrand

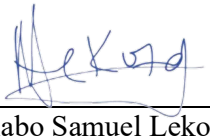
Johannesburg, 2022

Protocol number: WBS/BA722771/151

March 2022

DECLARATION

I Ntlabo Samuel Lekoto declare that this research report entitled 'The implementation and adoption of information and communication technologies for remote learning within South African private schools' is my own unaided work. I have acknowledged, attributed, and referenced all ideas sourced elsewhere. I am hereby submitting it in fulfilment of the requirements of Master of Business Administration degree at the University of the Witwatersrand. This report has not been submitted to any other examination or degree.



Ntlabo Samuel Lekoto

Signed at Pretoria on 18th November 2022

Name of candidate	**Ntlabo Samuel Lekoto**
Student number	**722771**
Telephone numbers	**079 561 8032**
Email address	**lekotons@gmail.com**
First year of registration	**2020**
Date of proposal submission	**2020/10/31**
Date of report submission	**2022/03/29**
Name of supervisor	Tonderai Sibanda

ABSTRACT

The COVID-19 pandemic has tremendously impacted the global economy including lockdown regulations which resulted in school closure across the world. Due to this, schools had to consider the alternative to provide primary education in-person. As a result of the pandemic, this study aims to investigate the implementation and adoption of information and communication technologies for remote learning within South African private schools.

A qualitative research methodology was utilised in this study. This approach was used in an effort to gather the thoughts, opinions and experiences of the participant to deduce insightful findings through a case study research design. A purposive sampling was adopted with empirical information gained through interviews. The analysis of the data was conducted through a qualitative thematic analysis in an effort to generate common themes which can be grouped together.

The study helps to bridge the gap of understanding the challenges which policy makers need to address to swiftly implement a successful integration of technology pedagogy.

The findings of the study indicated there was lack of detailed policy during the implementation of remote learning during the pandemic. The importance of upskilling teachers not only technically, but also with the ability to understand the pedagogical approaches of integrating technology within a teaching and learning environment was also evident. Furthermore, the findings highlighted the technical, social and psychological challenges which may impact learners, teachers and parents during remote learning. The findings also indicated lack of social interaction as a concern during remote learning which can result in social anxiety for the learners. The results of the study indicated that policy makers need to develop a detailed policy which address some of the common problems relating to remote learning. Innovative ways on how to develop digital pedagogy were also highlighted as a result of the study.

TABLE OF CONTENTS

DECLARATION iii
Abstract iv
Table of contents v
List of tables viii
List of figures ix
List of tables and figures in the appendices x
ACKNOWLEDGEMENTS xi
SUPPLEMENTARY INFORMATION xii
Definition of key terms and concepts xiii
1 Introduction to the research 15
1.1 Background and context 15
1.2 Research conceptualisation 16
1.2.1 The research problem statement 16
1.2.2 The research purpose 17
1.2.3 Research Questions 18
1.3 Delimitations and assumptions of the research study 18
1.4 Significance of the research study 19
1.5 Conclusion 19
2 Literature review 20
2.1 Introduction 20
2.2 Research problem analysis 20
2.2.1 Context 20
2.2.2 Symptoms 21
2.2.3 Root causes 22
2.2.4 Consequences 23
2.2.5 Possible solutions 23
2.3 Research knowledge gap analysis 24
2.3.1 State of ICT in relation to pedagogical practices 24
2.3.2 Challenges and limitation of using ICT in teaching and learning 24
2.3.3 Factors influencing the integration of ICT in teaching and learning 25
2.3.4 Policy impact on remote learning 26
2.3.5 Understanding the literature review 27
2.4 Variables 28
2.5 Theories to inform the study 29
2.5.1 Learning Theories 29
2.5.2 Online Theories 29
2.5.3 Open and Distance Learning 30
2.5.4 Theories selected for this study 31
2.6 Conceptual Framework 32
2.7 Propositions 33
2.7.1 Policy implementation 33

2.7.2 ICT for remote learning 33
2.7.3 Success factors for remote learning 34
2.8 Conclusion 34
3 Research strategy, design, procedure and methods 35
3.1 Introduction 35
3.2 Research strategy 35
3.3 Research design 35
3.4 Information collection instrument 36
3.5 Population 36
3.6 Sampling 36
3.7 Ethical considerations when collecting research information 37
3.8 Information collection process and storage 37
3.9 Information processing 37
3.10 Description of the research participants 38
3.11 Trustworthiness measures applied 38
3.12 Research weaknesses—technical and administrative limitations 39
3.13 Conclusion 39
4 Presentation of research results 40
4.1 Introduction 40
4.2 Statement 1: How policy implementation hinders the successful pedagogical integration of ICT in schools 40
4.2.1 Does the policy detail and support the implementation of remote learning in teaching and learning? 40
4.2.2 Does the policy outline the challenges of learning from home? 45
4.2.3 Does the policy consider upskilling of teachers and learning in using ICT tools? 50
4.2.4 Does the policy outline a contingency plan in relation to remote learning? 53
4.2.5 Does the policy outline the expectation of quality remote learning and how the schools should meet these expectations? 58
4.3 Statement 2: How private schools implemented ICT for remote learning to respond to the Covid-19 62
4.3.1 What did the school do to ensure that teachers and learners understand the ICT tools used for remote learning? 62
4.3.2 How does the schools monitor and evaluate that remote learning is working? 67
4.3.3 How will the school know if the policy implemented is working or not? 70
4.3.4 How will the schools encourage personal connections between the teacher and student? 73
4.4 Challenges which private schools face in using ICT for remote learning 77
4.4.1 How effective is remote learning? 77
4.4.2 What are the key issues being faced in remote learning? 81
4.4.3 What are the key improvements which could be done in remote learning? 87
4.5 Conclusion 92
5 Discussion of research findings 93

5.1 Introduction 93
5.2 How does policy implementation hinder the successful pedagogical integration of ICT in schools? 93
5.3 How did private schools implement ICT for remote learning to respond to the Covid-19? 95
5.4 Are there challenges which private schools faced in using ICT for remote learning? 97
5.5 Conclusion 98
6 Summary, conclusions, limitations, and recommendations 99
6.1 Research process and content summary 99
6.1.1 Conceptualisation 99
6.1.2 Conceptual Framework 99
6.1.3 Methodology 100
6.1.4 Empirical research results 100
6.1.5 Discussion of research findings 101
6.2 Conclusions 102
6.2.1 Contribution to knowledge 102
6.2.2 Comparison of results to other similar findings 103
6.3 Limitations 103
6.4 Recommendations 103
6.4.1 Policy implications 103
6.4.2 Implications to practitioners 104
6.5 Future research 104
References 106
Appendix A: Research Instrument 116
Appendix B: Research Consistency Matrix 117
Appendix C: One-page bio of the researcher 119
Appendix D: Ethics documentation 120

LIST OF TABLES

Table 1: Participants used in the study. 38

Table 2: Video Conferencing Strategies 76

LIST OF FIGURES

Figure 1: Variables …….. 28
Figure 2: Conceptual Framework…… 32

LIST OF TABLES AND FIGURES IN THE APPENDICES

APPENDIX A: Research Instrument ……116
APPENDIX B: Research Consistency Matrix …….. 117
APPENDIX C: One-pager bio of researcher …...… ……. 119
APPENDIX D: Ethical documentation ……...…… 120

ACKNOWLEDGEMENTS

This would not be possible without the God Almighty for giving me strength throughout this long and difficult but rewarding journey.

I would like to extend my appreciation and gratitude to my supervisor, Mr Tonderai Sibanda who was continuously encouraging and motivated me throughout this process. Thank you for your support and mentorship and the invaluable experience which will never be forgotten.

To all the participants who took part in the study, I would like to acknowledge your efforts and the role you played. I would also like to appreciate BBD Software in particular the management for understanding and giving me an opportunity to complete my MBA.

Special thanks to my wife Refilwe Lekoto and my two kids, Moloko and Kota Lekoto. The support and emotional sacrifices made, and the consistency and understanding throughout this difficult journey, has not gone unnoticed. I would not be here if it wasn't for the support. A special thank you to my sister Goitsemang Lekoto who always supports me in everything I do and who gave me advice and assistance through the journey.

I would like to dedicate this work to my mother Maria Lekoto, My wife Refilwe Lekoto and our beautiful kids, and to my sister Goitsemang Lekoto. All is possible. My mother always told me, "*Perseverance is the mother of success*".

SUPPLEMENTARY INFORMATION

Nominated journal: The Independent journal of teaching and learning

Supervisor / Co-author: Tonderai Sibanda

Word count †: 31745

DEFINITION OF KEY TERMS AND CONCEPTS

4IR	Fourth Industrial Revolution
CoI	Community of Inquiry
DHS	Demographic and Health Surveys
DoC	Department of Communications
ERL	Emergency Remote Learning
FAQ	Frequently asked questions
ICT	Information and Communication Technologies
IEA Association	International Association for Evaluation of Education
ISASA	Independent School's Association of Southern Africa
IT	Information Technology
MIT	Massachusetts Institute of Technology
NQF	National Qualifications Framework
OBE	Outcomes-Based Education
OCL	Online collaborative learning
ODL	Open and Distance Learning
SABC	South African Broadcast Corporation
SITES	Second International Technology in Education Study
SPSS	Statistical Package for Social Science

1 INTRODUCTION TO THE RESEARCH

1.1 Background and context

Information and Communications Technologies (ICT) is an integral part of today's world as it brings people together across the world irrespective of their physical distance (Abdel-Aziz, Abdel-Salam, & El-Sayad, 2016). ICT involves access to information through a collection of various communication technologies such as software, hardware, media, and networks. The components of ICT include devices, network components, data, applications, and systems which helps in facilitating interaction (Sarkar, 2012, p. 32). The Information and Communication Infrastructure (ICI) and Information Technology (IT) forms the two components of ICT (Sarkar, 2012). The inability to access modern information through ICT is termed digital divide. This concept is used to describe discrepancies in accessing both technology and information (Selwyn, 2004). In an effort to empower South African citizens and further the development of national e-strategy, the Electronic and Communications Transaction Act, No. 25 of 2002 was established by the Department of Communications (DoC).

Remote learning aspires to simulate traditional classroom interaction through a virtual environment leveraging on ICT. It enables the ability to learn from a distance using online modes of education (Zhang, Zhao, Zhou, & Jr., 2004). The success of remote learning lies in a well maintained and supportive infrastructure which operates efficiently with an enabled and capacitated education system (The World Bank Education Global Practice, 2020). Remote learning is facilitated through the use of internet and other technology tools such as video conference and virtual assessment in an attempt to recreate traditional classroom experience of teacher to student interaction. Some of the terminologies used to describe technology-enabled learning includes distance education, virtual classes, and online learning (Khalifa & Kwok, 1999).

According to World Bank Group (2020), about 1.6 billion children and youth in over 160 countries were left out of school due to the ongoing spread of the Coronavirus

disease (World Bank Group, 2020, p. 1). Due to the closure of schools, the acceleration of designing and implementing remote learning opportunities was exploited as an alternative by several schools and education ministries across the world (United Nations Children's Fund, 2020). In a report published by Massachusetts Institute of Technology (MIT) Teaching Systems Lab, Reich (2020) explains that in an effort to address the challenges and issues relating to the implementation of remote learning within schools, some of the of the U.S states have drafted and released comprehensive remote learning guidelines.

South African schools are clustered into five quintiles based on socioeconomic status, where the lowest quintile represent underprivileged schools with limited resources, while the highest quintile represent schools which are well resourced (Ogbonnaya & Awuah, 2019). This categorisation aims to bridge the gap and address the inequalities. The spread of the Covid-19 pandemic has highlighted a digital divide as schools proactively adopted the implementation of distance and remote learning (United Nations Children's Fund, 2020). In response to the national lockdown due to Covid-19, the private schooling sector quickly adopted remote learning avoiding a disruption of the academic activities with the support of Independent School's Association of Southern Africa (ISASA) (Anthony, 2020). The private schools bridge a digital divide gap as they are mostly equipped and resourced with ICT resources. However, adequate skills and learning experience seems to drive the online learning and teaching experience with different challenges experienced across different geographic locations.

1.2 Research conceptualisation

1.2.1 The research problem statement

Private schools have been implementing digital transformation and using it more as tool. Understanding the issues around implementing digital transformation in private schools is required. The impact of digital transformation on the society, business sector and government are undeniable, with both positive and negative effects. For businesses and government institutions to adjust to the rapid change in technology, they need to adjust their policies based on informed decisions from collected and well analysed data (OECD, 2018). According to McLoughlin (2018), transformation readiness outlines

the notion of preparing society for digital transformation adoption. McLoughlin (2018) highlights the integration of governance and perspective of transformation readiness and further explains that social inclusion and the ability to choose when to use technology can enhance technology inclusion within society. Isaacs (2007) explains that South African institutions are embracing the access to ICT particularly in public schools and FET colleges. Public schools are still affected by the effects of the apartheid regime with lack of resources, overcrowding and poor infrastructure. The department of Education highlights the importance of e-learning in addressing the quality of learning and teaching including inequality (Department of Education, 2007).

The spread of the Covid-19 pandemic has disrupted normal life enforcing the government to implement a national lockdown (Parliament of the Republic of South Africa, 2020). This meant closure of all schools including tertiary institutions. In mitigating some of the challenges caused by the pandemic, various schools implemented a virtual and remote learning strategy (BusinessTech, 2020). The schools with better resources were able to respond faster. The school with less resources found it difficult to respond. The private schools were better equipped and responded much faster to do remote learning.

A study of how some private schools were able to adopt and implement information and communication technologies (ICT) for remote learning will potentially provide a framework which other schools could follow and avoid potential pitfalls which could arise.

1.2.2 The research purpose

Technology disruption cannot be ignored and failure to keep up with the rapid growth of technology advancements, may results in an increased digital divide, inequality, and exclusion (United Nations Conference on Trade and Development, 2020). The aim of this study is to evaluate the implementation and adoption of information and communication technologies (ICT) for remote learning within South African private schools. The Covid-19 pandemic resulted in remote learning becoming an option to deliver teaching and learning across different communities thereby accelerating the integration of Information and Communication Technologies in education. The private

schools were more ready to migrate to remote learning. A study of how private school did this migration could be useful to ensure that all schools in South Africa are able to adopt remote learning when required. This will hopefully reduce the digital divide between students in private school and those in public schools. A descriptive qualitative study was done to determine how private schools did the migration to online learning.

1.2.3 Research Questions

Academic institutions are formal environments. Anything that is done at an academic institution is driven by policy. Though remote learning is implemented using ICT it is useful to study the role of policy in how it enables the implementation of remote learning.

To evaluate the implementation and adoption of information and communication technologies for remote learning within South African private schools the following research questions were formulated.

- Does policy implementation hinder the successful pedagogical integration of remote learning in schools?
- How did private schools implement ICT for remote learning to respond to the Covid-19?
- Are there challenges which private schools face in using ICT for remote learning?

1.3 Delimitations and assumptions of the research study

The observation of the study focused on private schools and their implementation of remote learning during the Coronavirus pandemic. The following three assumptions were considered in this study: participants answered all the interview questions of the qualitative study with honesty and integrity; schools were open in sharing their experience regarding the implementation of remote learning during the Coronavirus pandemic and participants successfully implemented and used remote learning during lockdown or they are currently using remote learning as a mode of teaching and learning. The assumptions were considered in relation to the participants of the study sharing their experience to improve using ICT for pedagogical reasons.

1.4 Significance of the research study

The Fourth Industrial Revolution (4IR) is redefining the new ways of interaction creating a reliant on people and technology (Mhlanga & Moloi, 2020). Mezied (2016) highlights that schools and universities needs to be innovative when thinking about the future of delivering education and the right skills and knowledge. Mezied (2016) outlines that these institutions needs to think about the role of education in the 4IR. The 4IR will create new opportunities and jobs for children entering primary schools today (Mhlanga & Moloi, 2020).

According to Condie and Munro (2007), remote learning can have a positive impact on learners as it can increase independent learning and engagement. Condie and Munro (2007) explains that the benefits of ICT use can improve the knowledge and understanding as it fosters collaborative learning and improved knowledge. The lockdown which was necessitated by the spread of COVID-19 has left some universities and schools to shut down due to lack of ICT tools (Mhlanga & Moloi, 2020). This study is important in enabling schools to undertstand the challenges of implementing the remote learning within South African schools. The study should stimulate conversations for schools in integrating ICT within the curriculum and setting an agenda to remaining relavent within the 4IR and the coming future. Technology has enabled an interconnected world and schools needs to have a global mindset.

1.5 Conclusion

This section outlined the background of the study which focuses on the integration of ICT in education. The study aims to evaluate the implementation and adoption of information and communication technologies for remote learning in South African private schools. This chapter outlined the research questions which will be addressed and the significance of doing this research.

2 LITERATURE REVIEW

2.1 Introduction

Three broad objectives are delivered within this chapter; namely to understand the research problem, identification of the knowledge gap, and a framework for interpreting the research findings. Specifically, in Section 2.1, we detail the research problem. In Section 2.2, we review literature on studies that have attempted a similar study or research. With information arising from Section 2.2, we identify and detail qualitative variables that are key to this research in Section 2.3 as well as a framework that we will use to interpret our research findings in Section 2.4. The conceptual framework is developed. The propositions are discussed and stated.

2.2 Research problem analysis

2.2.1 Context

Over the past two decades, inequalities have persisted across socio-economic status, race, and class in South Africa after transitioning from apartheid into democracy. The education system still suffers from crumbling infrastructure, overcrowded classrooms, and poor educational outcomes (Amnesty International, 2020). A survey conducted by Organisation for Economic Corporation and Development (OECD) outlined that most teachers across South Africa work in schools with socio-economically disadvantaged students (OECD, 2018, p. 2). Section 29(1) of the South African constitution outlines the right to quality education. Classrooms' resourcing is still a challenge in most schools within the country.

Various researchers advocate for the use of technology in supporting the educational process and improving on the learning experience. Meyer and Gent (2016) outline various taxonomies in which technology can play a role in the learning process. These includes the Notion of learning, ICT in Education, Model for learning design, Bloom's modified taxonomy (NIMB) framework and the TPACK framework. NIMB framework describes several integrated models in which ICT can be used for teaching and learning. TPACK framework uses key knowledge elements required for teaching with technology (Meyer & Gent, 2016, p. 3).

A report by Randles (2019) indicates that South Africa has fewer private schools as compared to public schools however, the independent private schools seem to have more resources in place including ICT. These private schools bridge the gap of the South African education system which remains one of the worst performing in the world, despite the government spending a considerable portion of the GDP on basic education in 2018 (Randles, 2019). The pandemic has prompted and accelerated the opportunity to assess the failures and successes of using technology in supporting education. It has necessitated the opportunity to exploit the use of technology in providing remote and distance learning within the Fourth Industrial Revolution (4IR) era.

2.2.2 Symptoms

Since the beginning of the new democracy, the South African education system has gone through major transformation with the introduction of new reforms to help improve governance and professional development of teachers. Policy implementations in the form of National Qualifications Framework (NQF) and a new curriculum framework, Outcomes-Based Education (OBE), were introduced to help improve the learning standards and quality assurance monitoring. Since 1996, the ICT education policy framework has been evolving which is aimed at transforming the learning and teaching experience through the use of ICT in schools and FET colleges (Isaacs, 2007, p. 5).

According to Mdlongwa (2012), the introduction of computers in South African schools occurred during 1980s by private schools and well-resourced government schools. By 2012, most South African schools still had no access to a single computer or ICT infrastructure due to lack of funds from the South African government (Mdlongwa, 2012, p. 2). In 2004, the White Paper on e-Education was officialised as the government policy for adoption of ICT in transforming learning and teaching. The goal of the policy is to ensure that teachers, managers and learners are ICT capable in relation to pedagogical practices (Republic of South Africa, 2004).

There has been slow growth and adoption of ICT policies within South African schools which can be attributed to lack of resource and basic ICT competencies by both

teachers and learners (Mdlongwa, 2012, p. 3). Students from underprivileged areas lack technological literacy from a young age and most government schools still do not offer computer literacy as a subject as opposed to private schools.

There have been various initiatives over the years by both the government and non-profit organisations to support the use of ICT in education. The Khanya Project initiated at the Western Cape has been one of the initiatives established to help increase educator capacity and effectiveness by means of technology innovation (Isaacs, 2007, p. 12). E-Schools' Network is also a non-profit organisation which is aimed to assist schools with connectivity and communication solutions in an effort to increase ICT capacity in support for learning (Isaacs, 2007, p. 11). Remote and distance learning provides students with the flexibility and increased access to a more learner-centred approach on the learning experience and new ways of interaction.

According to the United Nation (2020, p.2) the economic effects of the pandemic will have lasting effects as it predicts that some children and youth may not have access to school in 2022 across the world. The pandemic has however stimulated innovation within the education sector leveraging on ICT with various distance learning solutions being implemented such as remote learning via platforms such as Zoom, Microsoft Teams, Skype, and training sessions from television and radio. This period has also highlighted the future of the education as it accelerated new modes of learning and unlocked technology in delivering education.

2.2.3 Root causes

The pandemic has highlighted the necessity for teachers and students to adapt to digital technologies and for schools to invest in infrastructure in order to adopt technologies in delivering education (Rios, 2020). Rios (2020) reports that the pandemic has changed and shaped the future of education with two aspects where the pandemic has a lasting effect. He argues the importance of improving technology integration in education and the sudden shift to digital learning needs to be reinforced. Schleicher (2020) explains that the pandemic has also exposed inadequacies and inequalities in the education system and the need to use ICT within the education sector. Both teachers and students had to rapidly adapt to remote learning through the use of the online learning, radio, or television.

This can be atested by the lack of telecommunications infrastructure and adequate ICT policies in rural South African areas as compared to urban areas (Mashinini, 2008). The report also highlighted there is still lack of policies for remote learning across the world for pre-primary education. However, a study conducted by Mhlanga and Moloi (2020) revealed the South African education sector had a massive adoption of ICT tools for virtual learning during the pandemic lockdown.

2.2.4 Consequences

Remote learning can bring about flexibility within the learning process while allowing students to learn new skills and knowledge about technology (Anderson & Simpson, 2012). This study aims to create a framework for successfully implementing remote learning in both public and private schools through understanding the common challenges facing the integration of ICT in teaching and learning.

According to a research published by the National Institution of Multimedia Education, Aoki (2010) proves there is a significant and positive impact on students' achievement when integrating technology to the curriculum. Condie and Munro (2007) acknowledges this finding and further highlights that technology integration can improve on the learners' engagement, motivation, and independent learning (Condie & Munro, 2007, p. 22). Remote learning can also help increase the reach of the education system and schools in order to accommodate a larger number of learners and students thereby outgrowing the physical constraints of classrooms. The inability to understand the challenges faced when integrating technology into the education system and failure to successful adopt the technology trend such as remote learning can have a huge impact on schools, teachers and learners in developing sustainable skills within the 4IR era. The fast growth of ICT may also result in a digital divide due to inequalities and the gap between those how have access to technology and those who are not connected.

2.2.5 Possible solutions

The private schools in South Africa were able to quickly migrate to remote learning when the Covid-19 started. The move to remote learning was quite fast and there is need to understand how they did this. Understanding how private schools were able

to quickly migrate to remote learning will help the whole education system on how best to do this. Mhlanga and Moloi (2020) highlights that the South African government provided a fiscal mechanism for funding the notion of online learning and the adoption of the 4IR within the education sector. COVID-19 provided the opportunity to assess successes and failures of implementing remote learning, and increase education access through digital adoption, explains Mhlanga and Moloi (2020).

2.3 Research knowledge gap analysis

2.3.1 State of ICT in relation to pedagogical practices

Module 3 of the Second International Technology in Education Study (SITES) research program conducted by The International Association for Evaluation of Education Association (IEA) aims to analyse the similarities and differences of ICT in Education policies and national contexts between South Africa and Chile (Blignaut, Hinostroza, Els, & Brun, 2010). This paper identifies the state of ICT integration within the education sector in both countries by highlighting the availability of the infrastructure and ICT-related courses, pedagogical support and maintenance, perception of teachers about the impact of ICT, teachers' self-competence in using ICT and principal's vision for ICT-use. Through pedagogical practices, the study is targeted at policy makers as it highlights areas which require some improvement plans to be put in place. Using a quantitative approach, questionnaire survey was used to gather the data from different actors at school and teacher level. The results found that there was lack of ICT integration in schools as principals did not prioritise ICT use in teaching and learning.

2.3.2 Challenges and limitation of using ICT in teaching and learning

As both developing countries, Uganda and South Africa faces some common challenges such as unreliable supply of electricity, relatively stable economy, and high data cost. Habibu, Abdullah-Al-Mamun and Clement (2012) identified the challenges faced by teachers in using ICT in classroom teaching-learning within educational institutions in Uganda. The study used both descriptive qualitative method and quantitative method. A descriptive quantitative analysis was used for multiple choice

questionnaires while a qualititive approach was used in interpreting teachers and administrators' opinions to the multiple choice questions. By focusing on teacher-level and institution-level problems, Habibu et al. (2012) looked at factors that limited the use of ICT in teaching-learning process. Through exploiting extrinsic and intrisic problems, the study found that there was lack of proper software usage; lack of training opportunities in using ICT for teachers; resistance to change and adapting new technologies by teachers; lack of skilled personnel to help integrate technology into the learning process; lack of confindence and knowledge by teachers in integrating ICT into pedagogical practices.

The results of the study were analyzed and intepreted using a Chi square test and weighted average through the Statistical Package for Social Science (SPSS) software. The paper concluded that there has to be desire from teachers in using technology integration and an increase in teacher training should help in addressing the pedagogical issue.

2.3.3 Factors influencing the integration of ICT in teaching and learning

A quantitative study by Mathevula and Uwizeyimana (2014) was conducted in an effort to identify challenges faced in integrating ICT in teaching and learning in South African rural secondary schools. The study focused on the factors affecting the integration of ICT such as teacher training, the attitudes of teachers towards ICT, policy issues and the state of infrastructure. The results showed that teachers inadequate training affected their confidence level and ability to integrate ICT into the teaching and learning as it did not focus on key competence of ICT, which were identified in the study as productivity, communication, research, media, and presentation. Mathevula and Uwizeyimana (2014) found that lack of ICT tools such as computers and internet contributed negatively to implementing technology integration. Lack of comprehensive policies indicated that schools with TVs and radios were not used for teaching purposes depriving learners the opportunity for educational programmes offered by South African Broadcast Corporation (SABC).

The study was only limited to a focus on rural area schools and excluded private schools and public schools in urbanised areas. Most rural schools lack adequate

infrastructure due to inequalities as a result of the apartheid government and are often located in remote. This article focused on rural schools. Studying similar constructs private schools could provide different insights

2.3.4 Policy impact on remote learning

Unicef (2020) conducted a study to determine potential reach of remote learning policies across 100 countries. The study focuses on the extent use of TV, radio, and other digital tools as a result of remote learning policies implemented during COVID-19. The data was collected from multiple surveys including UNESCO-UNICEF-World Bank Survey on National Education Responses and household microdata from Multiple Indicator Cluster Surveys, Demographic and Health Surveys (DHS). It was found that most countries developed digital enabling policies around internet-based and broadcast (TV, radio-based) remote learning targeting primary and lower secondary students.

The paper is targeted at policy makers to ensure that they bridge the digital divide gap by looking at remote learning opportunities to reach learners who are unprivileged to access such resources. Parent involvement was found to be a crucial element for improving remote access at pre-primary education level. It was also found that there was correlation between the class level (income group) and the choice of remote learning technology, with the lower-income group using radio-based while the higher-income group uses internet and tv-based for learning. The study also indicated that at least 49 per cent of eastern and Southern Africa could not be reached by remote learning programs due to lack of comprehensive remote learning policies or lack of assets within the households as a result of digital divide, especially within poor and rural communities.

The study highlighted that television has more potential reach than internet-based learning however, in the Southern Africa radio-based learning had more reach than internet-based learning further highlighting lack of infrastructure in some areas within the country. The paper further concluded the importance of providing remote learning at pre-primary level. Policies around remote learning must focus on all households needs and leaners who do not have necessary assets at home. Remote learning quality and monitoring measures needs to be increased to maximise the effectiveness of the

programme. The study only focused on implementation of remote learning using TV, radio and internet-based technologies and data was collected on specific school grades.

2.3.5 Understanding the literature review

From the literature review, there seems to be a common thread about lack of comprehensive policy to help implement the integration of technology in teaching and learning. The studies which have been reviewed above highlights that there seems to be no proper guidance from policy makers on enabling school to implement the use of ICT in education. Although the literature outlines the importance of infrastructure availability and technology resource as a key factor to enabling learning through technology, skills and attitude seems to be a major contributor in enabling a digital-savvy learning environment.

Due to lack of adequate skills to help drive teaching and learning experience through the use of ICT, teachers are less motivated and lack the confidence and support to deliver on this mandate. Different countries seem to be faced with similar challenges when implementing ICT-use in education. Radio and TV-based learning seems to be underutilised for learning purposes. Even though one or two studies highlighted the importance of parent involvement in assisting children on remote learning, it did not fully investigate the competencies and skill which parents might require in order to support their children when learning through ICT, especially at pre-primary level.

One of the limitations from the literature review above is that it only focused on the challenges of implementing technology in education however, it did not exploit ministries or schools which have successfully implemented this process and the policies which can act as a guidance framework. The studies focused mostly on teachers and administrators but did not consider all the stakeholders involved during for remote learning.

2.4 Variables

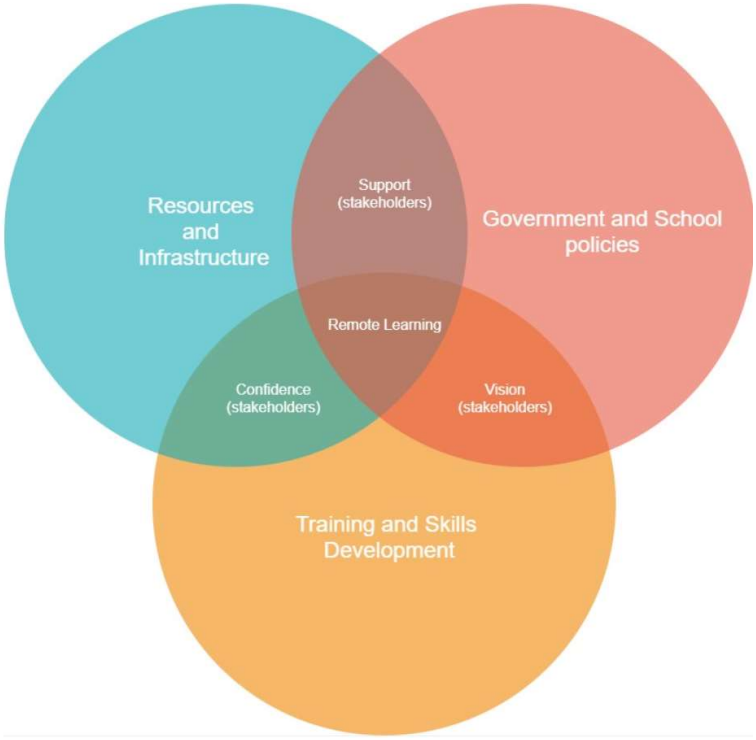


Figure 1: Variables

This study is considering both dependent and independent variables in evaluating the implementation of ICT for remote learning in schools. Government and school policy, training and development, and resources and equipment will be tested as independent variables. Stakeholders which include teachers, principals, parents, and learners will be treated as dependent variables. Figure 1 represents the conceptual framework of the variables used in this study, both independent and dependent, and how they are interrelated.

The interlinking of the independent variables can influence the stakeholders' attitude towards attaining a successful integration of technologies into teaching and learning. The framework depicts a high-level integration of how policies, skills development and infrastructure can influence the successful implementation of remote learning, and how it can affect the stakeholders involved. The framework also highlights the gaps or challenges which may exists within the ecosystem in order to integrate remote learning as part of the curriculum. The gaps can be identified by how the variables overlap with

one another thereby highlighting the challenges which may need to be addressed in closing the gap.

2.5 Theories to inform the study

2.5.1 Learning Theories

Hrastinski (2009) explains that learning is a dialog and social activity, and does not only rely on experience with the physical world. Jaldemark, Lindberg, and Olofsson (2005) explains that the three perspectives on learning which are social constructivist, social constructionist and socialcultural, found participation to be a condition for learning.

Social Constructivism as explained by Picciano (2017) highlights the complexity involved with regard to learning and teaching between teachers and students. Furthermore, this theory acknowledges that through reflective practices and collaboration, the interactive discussions between the teacher and learner facilicates learning whether in a face-to-face or online class (Picciano, 2017, p. 170). Interpersonal interation and discussions drives successful teaching and learning, with the purpose that learners understand the solutions to the problem. Myburgh and Tammaro (2013) explains that social contructivism is encougaged and facilicated by ICTs as it encomposes collaboration as a form of teaching and learning. This theory is relavent for this study as it highlights that teaching does not rely on the physical face to face interaction, however it involves interactions and discussions which facilitates the understanding and knowledge generation. Remote learning encourages this notion.

2.5.2 Online Theories

Online collaborative learning (OCL) theory is based on constructivist approach to learning as it uses internet to provide a learning environment (Picciano, 2017, p. 175). This theory was proposed by Linda Harasim and it focuses on collaboration and building knowledge through innovative ways (Bates, 2015). Through networked learning, OCL focuses on three key principles/phases which are idea generating, idea organising and intellectual convergence. Idea generating focuses on brainstorming to gather ideas. Through discussion and arguments, idea organising enables learners to compare, analyse, and categorise ideas generated from brainstorming. Intellectual synthesis, understanding and consensus occur during Intellectual convergence phase.

Through the interdependent of three key components the Community of Inquiry (CoI) framework assumes that learning occurs through a community who collaboratively engage in critical discourse (Garrison, Anderson, & Archer, 2000). The three elements include social presence, cognitive presence, and teaching presence. Social presence is the ability for the participants to identify with the community through the projection of their personal skills and develop inter-personal relationships.

Cognitive presence is the ability for the participants to construct meaning through sustained communication, and teaching presence which involves educational experience and facilitation. This framework is ideal for online learning environments as it supports critical thinking and discourse among teachers and learners (Bektashi, 2018). Bektashi (2018) explains that this framework is consistent with constructivist approach. Students are accountable for their learning within an online learning environment and assume responsibility construct and confirm meaning.

Through a remote learning environment, social presence can be created through the creation of profile and biography of students and teachers which can be viewed by all stakeholders involved. The sharing of course content, lessons and activities creates the teaching presence while the discussions which happens online through remote learning interaction can trigger cognitive presence.

2.5.3 Open and Distance Learning

Open and Distance Learning (ODL) is constructed on the notion that learning can be accessed from anywhere irrespective the distance and time. It is closely linked to technology and an enabler. Aydemir, Özkeskin and Akkurt (2015) explains that due to rapid change in technology, ODL needs to be continually revised. ODL has three main components which are pedagogy, technology, and theory.

According to Aydemir et al. (2015) the three pedagogical approaches of ODL includes: cognitive- behaviourism which enables education to be access at a lower cost by larger number of students as opposed to traditional education while providing maximum access and student freedom; Social constructivism which focuses on the interaction and communication of the participants through the use of technology; Connectivism is

the integration of principles explored by chaos, network and complexity and self-organization theories (Aydemir et al., 2015, p. 1752).

The technological background of ODL focuses on correspondence, telecommunications, and computers. It highlights the notion of using integrated telecommunications systems to deliver distance learning and highlights the role of the participant as either active or passive within the interaction. It also outlines two types of interaction as one-way and two-way interaction (Aydemir et al., 2015). This study can levarage on the key components of ODL by applying its principle to remote learning as it aims to use technology to deliver learning irrespective of the distance or location.

2.5.4 Theories selected for this study

The Community of Inquiry (CoI) framework and Open Distance Learning theory will be used as theoretical frameworks within this study. Both these theories consider the use of technology as part of learning and teaching and are based on constructivist approach. The ODL will guide in exploring the remote learning as it supports the notion of distance learning and continuously evolving technology. Through its principles, ODL allows exploitation of different telecommunications systems to support remote teaching and learning. The use of CoI framework will assist in understanding how schools addresses the challenges faced in implementing remote learning. This model will help in highlighting the social and teaching aspects among learners, teachers and parents of successfully implementing online remote learning.

2.6 Conceptual Framework

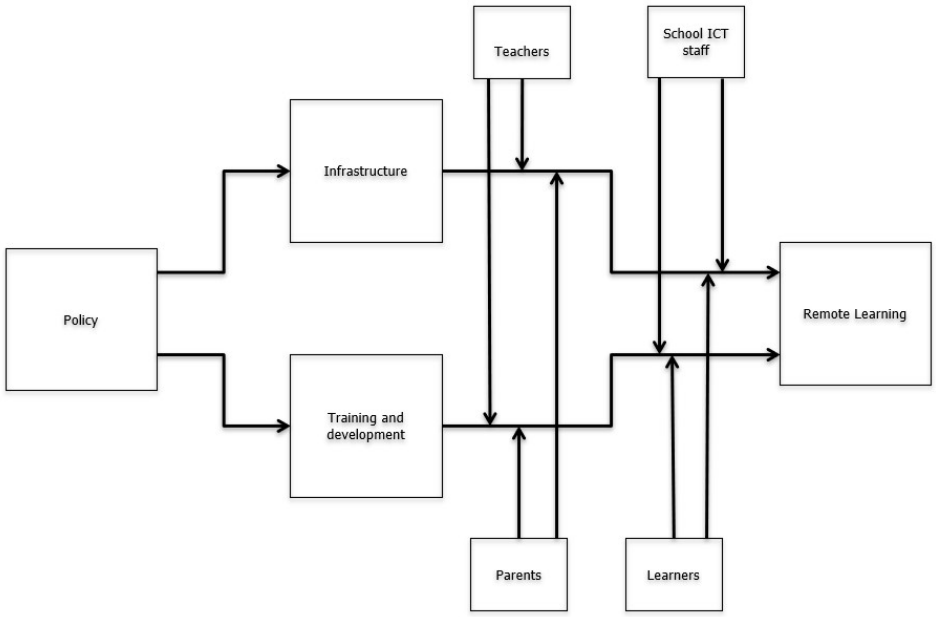


Figure 2: Conceptual Framework

Figure 2 represents the conceptual framework of the variables used in this study, both independent and dependent, and how they are interrelated. The independent variable for this study is policy. Resources and Infrastructure together with training and skills development will be mediator variables as they are influenced by policy and have an impact on remote learning, which is our dependent variable Teachers, learners and schools' ICT staff forms part of the stakeholders which is our moderator variables in this paper. The study will investigate if teachers, learners and parents have the correct infrastructure including then necessary training and development for online learning. The resources and capabilities, as well as the adequate infrastructure has the ability to influence the response by learners and teachers towards ICT-use. Adequate training and skills development can have an impact on the attitude of using remote learning and provide teachers and school staff with the confidence of using remote learning for teaching. With regard to teachers and school ICT staff as moderator variables, the study will investigate the attitude and skill level towards remote learning. Furthermore, the study will consider the attitude of learners and parents as moderator variables as well as behaviour.

2.7 Propositions

2.7.1 Policy implementation

Comprehensive policies need to be defined and implemented to help guide remote learning and the use of ICT in teaching and learning (Vial, 2019, p. 133). Teachers, learners, and other stakeholders who may be involved in the process need to get the correct training and development in order to facilitate remote learning. Policy needs to also support skills development to ensure the right people understand the technologies involved. It is important to identify and understand policy issues which hinders the implementation of remote learning (Kunkel & Matthess, 2020, p. 319).

Proposition 1: Policy implementation hinders the successful pedagogical integration of ICT in schools

2.7.2 ICT for remote learning

Policies needs to be supported by resources and capabilities in order to be effectively implemented, and visa-versa. In order to implement the government and schools' policies, the resources need to be reviewed and the infrastructure needs to exist to allow the implementation of the policies (Meyer & Gent, 2016). There must be provision of human, financial, and physical resources to support and ensure the quality of learning experience and achievement of the set goals is as per the policies.

With the rapid spread of spread of Covid-19, some schools both private and public resolved to using remote learning in an effort to continue the curriculum during lockdown. Schools have been developing ability to do remote learning for some time. Covid-19 accelerated the implementation of remote learning. Private schools were at risk of losing income if the schools closed due to the Covid-19. They had no choice but to find an innovative way of continuing.

Proposition 2: In response to Covid-19, private schools were forced to hasten the implementation of ICT for remote learning

2.7.3 Success factors for remote learning

The ability to have the knowledge and understand of how to mitigate against the challenges involved in integrating technology within our learning and teaching, can have a positive effect on the outlook or effect of taking this into consideration (Meyer & Gent, 2016, p. 23). It is important to identify and interrogate the challenges within the process as this will maximize the changes of success. The use of remote learning needed a buy in from the critical stakeholders. This included technical staff, parents, students, teachers, and the government. Besides the stakeholder buy-in understanding and ability to use the necessary technology was required.

Proposition 3: Success of remote learning depended on the private schools overcoming challenges they faced.

2.8 Conclusion

This chapter outlined the research problem in detail by explaining the symptoms and root cause analysis relating to the study. It also highlighted the consequences on not adopting remote learning into education. A gap analysis was conducted in the form of literature review and theoretical frameworks relating to this study. The chapter also indicated the variable and their relationship as well as a conceptual framework which will help shape the direction of the study.

3 RESEARCH STRATEGY, DESIGN, PROCEDURE AND METHODS

3.1 Introduction

The research approach, design and procedures and methods are identified within this chapter. These will be used to collect, process and analyse the empirical evidence in this study. The three main objectives within the chapter; to identify and describe the research strategy, the research design, as well as the procedure and methods. Reliability and validity are also described in this chapter. This will measure the credibility as well as the technical and administrative limitations we make.

3.2 Research strategy

This study used a qualitative approach in the form of interviews and observations. Qualitative research is aimed at uncovering meanings as they are apparent to an individual participant (Roberts & Wilson, 2002). A qualitative research seeks to understand phenomena in context-specific settings without the use of statistical procedures to produce findings (Golafshani, 2003).

It was important to gather the opinions and thoughts of the participants in understanding how ICT was successfully integrated into education to enable remote learning. Qualitative research was used in gathering unique insight through informed market research, giving the researcher an opportunity to create valuable conversation when gathering the data. This approach allowed participants to freely express their feelings and experience of the subject matter which helped in providing an honest view of the process.

3.3 Research design

This study used a case study design. Case study allows information to be collected from a sub-set or the entire population in an effort to help answer research questions (Olsen & George, 2004). The case research design was chosen as the study focused on

investigating how remote learning was implemented during the Coronavirus pandemic, as schools had to rapidly adopt the use of technology.

3.4 Information collection instrument

This study used an interview schedule for information collection. It was important for the study to gain more insight from the participants with regard to the adoption of remote learning hence the study used a qualitative approach. In-depth interviews allow detailed information to be provided by the research participants. The interview schedule is indicated in Appendix A.

3.5 Population

Burns and Grove (1997) defines the population as the entire aggregation of respondents that meet the designated set of criteria. The population for this study comprises of staff in private schools involved in the implementation of remote learning including technical staff, teachers, and management. All staff of private schools within the 9 provinces in South Africa which adopted remote learning are included within the population. The private schools include primary schools, secondary schools and private colleges. Technical staff, teachers and management were identified to be appropriate as the unit of the study as they play an integral part of the pedagogical support for remote learning.

3.6 Sampling

Purposive sampling was used for this study. Staff in private schools within the Gauteng province were used as participants of the study. The sample was chosen considering that Gauteng has several private schools and all of them implemented remote learning during the Covid-19. The staff sampled was five different private schools within the province. Three school in the Johannesburg Metropolitan area and two schools in the Tshwane area were used for the study. The sample included technical staff, teachers, and management. They were all involved in the implementation of remote learning. A total of 8 participants were interviewed.

3.7 Ethical considerations when collecting research information

To ensure that the information was collected in an ethical manner, I disclosed to all the participates the aim and objectives of the research and outlined all the confidentiality clauses related to the study. There was no exchange of any incentives or favours between the participants and the researcher in order to gather information or provide answers to the questions. There was plan to terminate the interview if any of the participants felt uncomfortable. None of the participants felt comfortable during the interview so no interview was terminated prematurely. All interviews were conducted with consent from the participants. All the information collected will remain confidential. The interviewer explained to the participants that all the information collected would be kept confidential.

3.8 Information collection process and storage

Barrett and Twycross (2018) defines data collection as the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The interviews were conducted through a face-to-face or using remote conferencing tools like Zoom or Microsoft Teams. The COVID-19 pandemic encourages the use of remote communications as opposed to face to face.

When using the remote conferencing tools, recording of the interviews were done and stored on a password protected cloud service account. During the face-to-face interview, a smart device was used to record the session, and the recording was uploaded to the cloud service account. The storage of the interview transcript to a cloud service account will minimize the risk of losing the recordings and will safeguard against any theft while maintaining the data integrity of the interview sessions.

3.9 Information processing

A qualitative thematic analysis was used as a method to process the information. According to Boyatzis (1998) thematic analysis is used to encode qualitative information. Themes which are related are grouped together in an effort to identify a common behaviour or pattern which will provide insight about the dataset (Boyatzis,

1998). Once the themes have been identified, by grouping the common themes and naming them will enable the ability to produce a report (Braun & Clarke, 2012).

3.10 Description of the research participants

The research uses eight participants selected from three schools in Johannesburg and two schools in the Tshwane Municipality area. The participants comprised of staff at private schools. These staff includes technical staff, teachers, and management who were all involved in the implementation of remote learning at their schools.

The below table shows the profile of the participants contributed to this study

Participant	Description
Participant 1	School Director
Participant 2	Headmaster
Participant 3	Grade 4 to grade 5 teacher
Patricipant 4	Mathematics teacher
Patricipant 5	Teacher and digital advisor for the school
Patricipant 6	Geography teacher
Participant 7	Physics and sport teacher
Participant 8	Headmaster

Table 1: Participants used in the study

3.11 Trustworthiness measures applied

In qualitative research the important issue is trustworthiness of the research. It is important to establish authenticity, quality, and truthfulness of the findings of the qualitative research (Cypress, 2017, p. 254). Trustworthiness has four dimensions namely credibility, transferability, dependability, and confirmability as explained by Cypress (2017). The research findings were presented with truth and accuracy in order to demonstrate credibility of the researcher. In demonstrating transferability, the findings need to be applicable to other context and situations. Interview transcripts has been kept demonstrating the degree of neutrality of this study in an effort to demonstrate confirmability. The interview transcript has also been used to demonstrate dependability on the study.

3.12 Research weaknesses—technical and administrative limitations

One of the limitations may be the attitude of the participants towards the study. This is a concern of whether the selected sample may reflect the views of the populations considering the location and economic conditions during the study. The study has also relied on the openness of the participants about their experience on remote learning during the Coronavirus pandemic. One of the inherent challenges of qualitative research is that it cannot be generalised. However, this research aims to get an in-depth knowledge of the issues which arose when private schools implemented remote learning.

3.13 Conclusion

This section has outlined the qualitative approach which was used in this study. The data was collected through interviews and processed and analysed using qualitative thematic analysis. The population of the study is South African private schools' staff. Purposive sampling was used to identify Gauteng based private schools to use for the study. The chapter concludes by emphasising ethical issues considered in the research, the research strength, and the research weaknesses.

4 PRESENTATION OF RESEARCH RESULTS

4.1 Introduction

In this section, the findings of the qualitative research conducted across various schools is presented including the themes gathered from the participants. The section has verbatim quotes from the participants in supporting the questions asked and increasing the trustworthiness of the research. The participants included people from various levels within different schools such as school management, headmaster, teachers and technical personnel from both junior and senior primary schools as well as the college level from private schools. The variety of the subjects which the participants (teachers) offered within the remote learning includes mathematics, geography, physics, sports and gymnastics. The participants from the management level include headmasters from both junior primary and college level, and a director from different schools. During the interviews, it was discovered that some schools had implemented digital learning for some time while others were forced to implement remote learning as a response to Covid and due to lockdown regulations.

4.2 Statement 1: How policy implementation hinders the successful pedagogical integration of ICT in schools

4.2.1 Does the policy detail and support the implementation of remote learning in teaching and learning?

This interview question is aimed at understanding the extend of support which policy has on the successful implementation of remote learning in schools, using information and communication technologies. During the interview sessions, several themes were addressed by participants (interviewees) in relation to this question. The following are the themes which have been picked up when addressing these questions: there is no official policy implemented; policy is updated as you learn; there is no set policy however some guidelines to navigate remote learning; partially ready for remote learning; learn as you go through trial and error; policy was developed over time through agile process and set of expectations are defined by the management.

Below are some of the verbatim quotes from the participants in answering the question, "does the policy detail and support the implementation of remote learning in teaching and learning?".

One participant indicated that there was no formal policy which was implemented as they were operating within a constantly and continuously changing environment, and they had to adapt with time.

> "*Last year when covid originally happened and we very quickly had to move to online learning, it happened day by day, and I would really not say there was a policy per se, because everyone was so unsure of what it all meant and particularly how long we were going to be using an online platform. We found that things almost changed week to week just as the days went on [and] found that there were certain parts of our online learning that worked better, but there were things that we needed to chop and change quiet quickly because we saw there were big gaps in the children's learning and just the teachers' ability to kind of teach those particular concepts online.*" [participant 3]

The participant furthermore elaborated about the continuous change involved within the remote learning space and the expectations from the management in working within an online environment.

> "*. . . in the beginning I would not say there was an outright set policy and even now this year when we have to go back to the online learning at the start of the year, again [we] have to change quite a bit to what we had done last year when the children were at home. But I think what worked very well was the management's expectations of us and what was expected of [teachers], what we had to do with the children online, we [had clear direction] of what was expected of us while we were online. We have figured out which aspect of the online worked really well... There were open lines of communications and lots of staff meeting via zoom where the expectations and our requirement were often put to us, and we always knew what was expected."* [participant 3]

Another participant highlighted that due to an abrupt move to remote learning, there was no fixed policy which was set even though they had an online presence. However,

the policy was “updated as we learn” as the remote learning was triggered due to Covid and in compliance with lockdown regulations.

> “*We don't really have a fixed policy that was written up, you know, it all happened so soon and so quick we had to just change gear and move on to remote learning very quickly so from there we didn't really have any policy to work with and we sort of got some guidelines from [holding company]. They helped us to set MS Teams. We had MS Teams going just before that, but the teachers were not really familiarised with it as much as we would have hoped by then. So, we do not really have a policy, but we had guidelines as to what was expected for us during the whole online learning and remote learning, so as a policy we didn't really have one.*” [Participant 4]

The participant continued to explain how through communication and agility, teachers had to adapt throw “trial and error” in navigating remote learning due to lack of a detailed policy.

> “*We sort of update as we learned. There were a few things that we just did by trial and error. Not necessarily trial and error but we had to quickly get together, learn how to work [Microsoft] Teams, learn how to engage with the students that are at home. And from there, there were things that were happening daily that we had to come and decide together that, this is not working, and this is working, how do we do these? So, we were thrown into the deep end and then we had to learn how to swim basically and through that we helped each other*” [Participant 4]

A participant from the prep school indicated that remote learning was never considered before the lockdown, as a result of the pandemic, and they did not have any policy defined when moving to remote learning. Furthermore, the participant indicated that due to the age of the learners, remote learning was not ideal as a primary means of delivering education.

> “*... prior to Covid or prior to last year March on our prep learning at school it was not existed, and it was never truly a consideration because, I am talking from a prep school point of view, definitely concrete face to face learning is what a child of that kind of age requires. So, there was no policy and there was no desire to implement it. Understanding the psychology of a child, and how*

they develop and how they not only from the academics, require a physical person in front of them but even to meet the needs of their co-social, emotional, cognitive ability… knowing that a child needs physical touch and affirmation... which online learning does not address adequately. So, it was never a consideration to implement it prior to Covid." [Participant 5]

The participant further indicated that remote learning was implemented as a means to keep the school operational due to lockdown regulations and the policy was developed over time.

"Obviously Covid hit, and then you kind of puts your business model hat on, as opposed to what children needs and the business model says: We are a private school, we have to keep our income, we have to maintain and keep parents happy in order for them to be paying school fees. So, what was the logical thing? It was to move online so we can still deliver our service in exchange for their funds to keep a business afloat. It was very much a policy in the making, and trial and error, and I suppose teachers and staff were learning at the same pace as the pupils were, in terms of it was a sink or swim kind of scenario." [Participant 5]

The participant indicated that as soon as they had an opportunity to go back to face-to-face learning, they did so. However, when the school had to return to remote learning again, there was more guidance in terms of policy and confidence using remote learning for both teachers and pupils.

"*We went online for the hard lockdown, and fortunately enough because we are a small or medium private school, and our numbers are below 400, the house department allowed us to be on campus again from June… for the remainder of the year, we were face to face teaching and up until … the government closed us again, and [now we have had] 2 weeks of online. This time around we knew what we were doing, and we were able to give our staff a lot more guidance in terms of what we knew would work and what would not. Definitely our children, the pupils as well, were more confident in knowing what to do, so [this question] is a bit more tricky as obviously there was no policy*" [Participant 5]

There seems to be no formal policy to guide the implementation of remote learning for teaching and learning. A set of guidelines were developed, and they seem to be updated continually. The lack of formal policy seems to be triggered by the abrupt move to online learning due to the Covid pandemic for most private schools. Teachers and learners had to use a trial-and-error approach in navigating remote learning to lack of a detailed policy. Due to agility and continuous communication, the policy was updated continuously which improved the remote learning process and the confidence for both learners and teachers. The policy for remote learning is developed over time and updated accordingly due to the learnings of operating within the remote learning.

The above findings are corroborated by the following literature titled, The Remoteness of Remote Learning: A policy Lesson from COVID-19 (Eder, 2020). Eder (2020) indicates that sufficient time for planning and implementation of information and communication technologies in supporting basic education is necessary. Furthermore, Eder (2020) denotes that policy makers needs to follow the "do no harm" principle, suggesting that the policy makers need to ensure that all learners and educators should benefit from implementing remote learning and none will be excluded regardless of the socio-economic factors. Eder (2020) urges that the implementation of online learning as necessitated by the pandemic should enable policy makers the opportunity of reviewing existing educational programmes and policies, and the impact it might this will have on both learners and educators during and beyond the pandemic.

Avanesian, Mizunoya and Amaro (2021) conducted a similar research to investigate the effects of remote learning policies implemeted during COVID-19. The study looked at various variables including the analysing household assests to estimate potential reach of remote learning policies for affected students, the remote learning channel which provide extensive coverage ensuring continuous learning for schools and the impact of remote learning policies on socio-economic status and area of residence (Avanesian et al., 2021, p. 2). The findings of the research indiated a negetive impact on the schools in both the primary and secondary level due to "the absence of remote learning policies or a lack of the technological assests required for continuing education through online or broadcasting channels" (Avanesian et al., 2021, p. 4). The study puts an emphasis on both reachability and the presence of remote learning policies in addressing socio-economic conditions as a key factor to the success of

remote learning. Avanesian et al. (2021) concludes that remote learning policies should be inclusive and everyone including those who are most vulnerable. Furthermore, remote learning policies should be created being mindful of the relavent technologies to be used and reachability of the targeted population (Avanesian et al., 2021, p. 7).

4.2.2 Does the policy outline the challenges of learning from home?

This interview question is aimed at understanding the policy approach to challenges faced within a remote learning environment. The outcome of the thematic analysis yields the following themes related to this interview question are: lack of policy is a challenge; challenges not outlined in policy; rules of engagement, technological and social challenges; work overload converting teaching material to online; lack of budget for adequate equipment; changes to the curriculum to accommodate for online learning, connectivity issues; lack of appropriate infrastructure to connect to remote learning; computer literacy (especially older staffing) and challenges when setting up for remote learning.

When asked this question, one participant indicated that due to lack of policy, only the rules of engagement were outlined within the guidelines, and these guidelines did not outline how to deal with any of the challenges of delivering education within remote learning.

> "*Policy is a very brief document about 2 pages, so it's mostly about the level of engagement, how we expect our learners to engage, what we expect from them, what will actually assist with regard to the learning and teaching. Its more about submission of work, what's the policy, how do we communicate after hours, the timeframe of communication and also informing the parents as to what are the codes and conduct and the rules for the level of engagement so that we can have a mutually beneficial engagement between the teachers and learners at school and the parents as well.*" [Participant 6]

A different participant however explained that there were some challenges which have been outlined within the policy in an effort to encourage the teacher and to acknowledge that remote learning has its share of challenges. Furthermore, the

response from participant informs that a range of practical challenges were recognised such as lack of adequate equipment, frustration and overwhelming feelings from teachers, pupils as well as parents, and some technical challenges regarding upskilling.

> "*I think we definitely do outline the challenges and… you want to outline the challenges particularly to the staffing and teachers that they actually don't get discouraged, so that teachers are aware that management recognise that this won't be their 100% best efforts because of the challenges of e-learning. The challenge that we faced particularly during the first lockdown was the lack of time to plan. The teachers immediately making the change from face-to-face teaching to online teaching, your curriculum had to change, you're planning as to when your teachers are setting the curriculum, you know, you would not have to teach a hard concept online. You would rather save it for later in the year when you knew you had the children [in a face-to-face interaction]. So just the absolute lack of time in the beginning to plan, and I suppose the lack of budget.*" [Participant 5]

The participant further elaborated about the challenges faced, especially on an initial setup.

> "*Not all staffing had the adequate equipment to automatically go online adequately and do the best job. So, lots of them might have basic laptop and that kind of thing, storage facilities or needing for iPads, Apple pencils, things like that which really the staffing needed in order to be successful, but lack of budget was a real thing. Connectivity, know that not all staff as well as pupils have stable connectivity, certainly those who are not on fibre, I mean the budget of running zoom or [similar platform] on data is actually astronomical and does not even make sense. Just that initial practical challenge on the outset, so the lack of time, lack of budget, lack of connectivity, and then I suppose the computer literacy of staff and pupils, so there [are] always these two sides of the challenges."* [Participant 5]

Furthermore,

> "*There are the challenges of the staff who would have the same type of challenges as pupils. The older staff in age, for them to learn a simple program like zoom or just sharing a screen, you know, things like that, it was just*

astronomical in the beginning. Pupils and staffing easily became overwhelmed. On the pupils' side challenges required lots of parents' intervention to help them to navigate zoom. We used a programme called Showbie, which is an online platform for sharing documents and that is really like a google forms kind of platform. And then that became quite frustrating at home, parents got easily agitated because the parents trying to hold onto their job and work on the side lines and they do not actually want to be intervening with the child's computer working. So just some practical challenges those were some of them that we needed to navigate." [Participant 5]

Another participant indicated that some challenges can only be identified during the remote learning and the policy needs to be agile in adapting to resolving such challenges as they arise.

"*... the challenges have been identified as we go through the process. As you initially set it out [policy] you do not foresee some of those challenges, and only when the remote learning start taking effect do you start to realise what challenges they are. So [the policy] has to be adapted as you go along, and with those challenges we adapt and create solutions around the challenges faced, and change our methodology and approach to suit and accommodate those challenges*" [Participant 2]

During the interview, the participant further outlined some of the common challenges which were discovered after the school implemented remote learning as a mean to deliver education.

"*The most significant challenge is power outage and that can affect both students and teachers, especially with unplanned outages ... Where the teacher was affected [by power outage] it was a huge problem as the entire class was affected. The way we overcame this was the fact that lessons were recorded. [For a] student who missed those lessons because of power outage or network issues could go back at a later stage and re-watch the lessons…we found this extremely beneficial not only for those students who missed out but for students for revision purposes . . . they could go back and watch the lessons and that a huge advantage."* [Participant 2]

The participant also detailed how the policy outlined how to mitigate some of the challenges of learning remotely as opposed to traditional face-to-face classroom learning. The participant indicated that the challenges experience during remote learning can be categorised in two themes: technical and social challenges.

> "*When children are in their own homes you have less control over them as well, so we had to establish policies around rules and regulations for online learning. Children have to seat on their desk, and their cameras had to be on, they had to engage in lessons. Children could not be in their beds, and we had to rely on parent to encourage them to be in a classroom setup…have a dedicated workstation. Our biggest advantage is that we are on the google platform and we have been for a number of years now, we use google meet as our online platform which gives us full control over the platform and can control each device use by the students. The challenges can be categorised as technical challenges and personal social challenges especially with children being in their homes*" [Participant 2]

One participant indicated that connectivity and having the correct equipment for all learners seemed to be a challenge. The participant indicated that the school had to arrange for connectivity for learners and teachers who did not have the connectivity. Furthermore, the was no certainty that all learners have the correct equipment for remote learning.

> "*Some of the challenges are common between teachers and non-students. Connective was one of the key challenges and we were forced to make a plan that no child or parent or teacher that was left out of it. We were forced to arrange connectivity and its different across all the country. Did every student have a laptop or a room that was quiet to do online schooling from?*" [Participant 1]

Furthermore, the participant indicated the distractions which came with remote learning and the impact it had on both teachers and learners.

> "*. . . one of the biggest problems with learning is that the moment your online, it's not physical. The child has more distraction and have less oversight, so the teachers are left in a difficult position to ensure the child is taking the lesson in. Teachers asking specific learners' question can also is a mechanism of*

trying to compensate for that less oversight and small distraction." [Participant 1]

Due to lack of formal policy and the abrupt move to remote learning, most of the challenges experienced were technical and social challenges. Technical challenges include upskilling of teachers and the ability to convert the current curriculum to align with online learning. Lack of adequate equipment and including connectivity were also part of the challenges experienced by both teachers and learners. The analysis also highlighted social challenges which were identified such as teachers and parents feeling overwhelmed and social anxiety experienced by learners due to lack of social interaction. Parents also had an additional burden as they had to ensure learners are accountable for logging into the online platforms to learn.

Rahiem (2020) conducted a qualitative study in which eight students were sampled in an effort to examine technological barriers and challenge in the use of ICT during COVID-19 Emergence Remote Learning. The findings of the study highlighted that technological bareers were divided into four main themes: device issues which incorporates incompatable device and incorporates incompatable devices and sharing of the device with other family members, internet connectivity comprising of unstable internet connection and internet accessibility, cost with the sub-themes internet cost and buying new gadgets and skills which encompases new applications, inexperience, ICT illiterate and indequate learning platforms (Rahiem, 2020, p. 1627). Rahiem (2020) found that there were compatibility issues with devices and online learning programs being used. Furthermore, internet was also a main issue due to poor connectivity and lack of internet access in some cases. Some of the staff members delayed the learning progress due to lack of skillset in using online learning tools to deliver education to the students. In conclusion, Rahiem (2020) indicated that innovative approaches needs to be applied in an effort to improve institutional skills and readiness of educational leaders, educators and students to addressing some of these remote learning challenges (Rahiem, 2020, p. 1630).

In an effort to understand the impact and challenges of moving from face-to-face classroom learning to remote learning, Chhetri (2020) conducted a survey of students and documented the results in the report paper titled, "I Lost Track of Things": Student

Experiences of Remote Learning in the Covid-19 Pandemic. Chhetri (2020) indicated that the challenges were divided into 3 dimensions: transmission modes, learning styles and technical support (Chhetri, 2020, p. 315). After performing the analysis, Chhetri (2020) found that the challenge experienced by students during remote learning includes distractions at home, deadlines and due dates for assessments, performing group works, performing hands on activities, interactions including advisory and social interactions, staying motivated and on track, time management and technical difficulties. Some of the challenges included learning styles which can hinder or improve the remote learning experience.

4.2.3 Does the policy consider upskilling of teachers and learning in using ICT tools?

This interview question aims to address how policy approaches the upskilling of teachers, learners and parents in using the information and communication technologies. The respondents' answers to this question yield the different themes: extensive training for teachers and learners; continuous training to improve in changing environment; school enabled training; comfortable in moving to digital/remote learning space; less training due to digital advancement and digital advisory.

In answering this question, one participant indicated that due to digital maturity within the school, they had extensive training a few months before they implemented remote learning. This training was extended to both teachers and learners. Furthermore, the learning is continuous as they learn the environment.

> "*We were fortunate enough, a year before Covid we started looking at some sort of way to record and to have lessons accessible for kids that might have had to go to sport meets or things like that, so we were looking into the Microsoft Teams platform pre-Covid. Then obviously last year just before [remote learning] started, our training was fast tracked, and we had quite an intensive training. Not just the teachers but the kids as well in terms of using Microsoft Teams and also before we started our online programme formally… we had sort of a week of "dry run" of loading lessons and login on and just touching base and having training not just from the school but also from our*

holding company. So, a lot of time and effort has gone into actually teaching and training and making sure people are able to use and obviously, the best way to learn is to start doing it." [Participant 7]

Furthermore, the participants explains that training is an ongoing and continuous process in an effort to "do things better".

"*…[it's] ongoing. We have just in this week received new online training little course that we can do to sort of upskill and make things better, and because things change so quickly. There is a continuous and there was an intensive training happening before, and then there is continuous input in how to do things better and how to step up and deliver what we are used to delivering in the classroom*." [Participant 7]

When asked the question, "does the policy consider upskilling of teachers and learners in using ICT tools?", one participant, a Geography teacher mentioned that the school has a dedicated digital expert who drives digital transformation within the school. Furthermore, the person is responsible for advice on using digital tools to facilitate learning through remote or online platform even though there is no formal policy which defines the upskilling of teachers.

"*On the policy, it's not formulated per se as to how the teachers will be upskilled and what not, but as a school, as an institution we do have a director of information technology, learning and teaching. So, her responsibility especially around the [Covid-19] time was to sort of be the go-to person with regard to different platforms we can use. Also, we would get workshops over time as to this is how this works, there were also short videos to refer to [in terms of] this is how you use google meets, this is how it works… So that person was in place even before the covid time. So, her job together with her colleagues is to drive an online space, whether remotely or on campus, so she was the digital to go to person together with the different platforms that we can use to deliver content or to teach remotely."* [Participant 6]

The participant elaborated that they had a few years of using online platform before they implemented remote learning, which gave them an advantage in operating within the digital space.

"*We are a google school. It means that most of our platforms like the main platform we use is google. So, we use google classroom and it has been [in] use for more than 5 years now. The platform was mainly used for uploading work, online quizzes and all those things and also promoting learners to be more involved in digital space. We have always tried to ensure that learners are engaged, and we use the digital space."* [Participant 6]

Due to the school having a digital presence for some time before implementing remote learning, the participant indicated that both the teachers and learners were comfortable learning and teaching online and the only new element, was that it happened remotely as opposed to online classroom interaction.

"*… I think for most learners and teachers in terms of digital space they were ready, and they were comfortable with working on digital space using platforms. The only things that was new, I would say is, having to teach remotely using google meets but most of them were comfortable, …because most of them were comfortable in the digital space at large, the switch [to remote learning] became sort of natural, especially from the teacher's side. I think with the kids, because they were home, they are in a comfortable space, it's not always easy for them to put themselves in the same mindset that they would have in the classroom. But I think about 70% of them were really able to just hop on it and work with us*." [Participant 6]

Another participant indicated that since they did not have a policy, they had partnered with another school which had already implemented remote learning to help in upskilling and understanding the correct tools to use for remote learning.

"*The first thing that we did was to get together with another school who has had some sort of platform with online teaching, and we had to learn from them: what did they use? what is the best tools to have? If there was a recorder, how did they use it, do we need to purchase anything more? The budget is tight [and] you can't all of a sudden purchase all these things. We had to make it work as we could see, maybe if I buy a little stand like these that would work much better or that would make my life much easier."* [Participant 4]

There seems to be a conflicting view from the participants. Some schools presume that teachers and learners are technically savvy as we live in a technologically advanced world. However, some sort of formal training and upskilling was done mostly for the teachers. The training was conducted mostly on platforms used to deliver remote learning for learners rather than integrating the pedagogical methodologies with the use of ICT. During remote learning specifically under the pandemic, upskilling was continuous as teachers and other schools seemed to learn from experience and enhance their skills and methods of delivering education online for learners.

Similar findings were uncovered in a study conducted by June (2020) which indicated that faculty members struggled with "intricities of learning management, unfamiliar conferencing technologies and new protocols of coursework and tests" during the emergency remote learning implementation. Furthermore, June (2020) highlighted even though face-to-face learning was more preferred over remote learning, most faculty members were confident in teaching online once they had some skills development and familiarity with the environment. Badiozaman, Leong and Wong (2020) also found that teachers found that specific professional development programmes were useful to teachers in learning more about online learning teaching pedagogy. The professional development and familiarity in with online teaching also had an impact as teachers indicated a positive attitude and confidence, once they have the necessary skills to nativate the online teaching pedagology, elaborated Badiozaman et al. (2020). Garcia-Vedrenne, Orland, Ballare, Shapiro and Wayne (2020) had similar findings which indicated that lack of professional training in conducting or participating in remote learning can result in teachers, students and administrators struggling to transication from face-to-face learning to remote leraning.

4.2.4 Does the policy outline a contingency plan in relation to remote learning?

The question aims to understand if there is any risk management addressed by the policy in relation to remote learning. Due to a number of technical issues and issues relating to how learning is delivered can compromise the successful pedagogical integration of remote learning. The participants' responses highlighted a few themes when addressing this interview question: Learning over assessment, changes in the

way of learning and assessment, parents are an integral part in remote learning, innovative way of doing things as opposed to traditional way, understanding the level of equality within the society and being able to cater and support that within the remote learning space. Other themes include lesson recording available and alternative power supply in case of load shedding, and additional consultation on catching up with what was taught online.

When asked about any contingency plans, one participant indicated that:

> "*There were a couple, but it was not something which was in a document. I think the policy was something that was more alive than codified. It was not a codified type of policy. With regard to the younger grades, and by the younger grade I am referring to grade 8 to 10, we had a bit of flexibility there. So, the type of assignments that we would give were more of a project-based assignment were the learner could engage with the project or that particular project over time and they would submit at a particular point.*" [Participant 6]

The participant continued to explain the contingency process they had, to deal with Covid related scenarios and the approach they had in place for remote learning. "We wanted to focus more on the learning" explained the participant.

> "*We cannot try to say let's have the classroom at home. We wanted to have a dual or a hybrid type of thing. And also, we communicated with parents that we are aware that such thing [does] exists such as covid as you rightfully point out to. So, we expect that you will be able to sort of assist the students from your side and we also assured the parents and the learners that should you be experiencing the covid, its fine and you can always submit at a later time. And in terms of our assessment, it was not really about the mark per se. It was more about are we ensuring that the child is learning and engaging because it is very hard to have a valid assessment and reliable assessment in a traditional sense if a child is at home, so we wanted to focus more on the learning.*" [Participant 6]

Furthermore, the participant explained the contingency plans for ensuring the learners still have quality resource material for learning and the support they needed from parents in ensuring the learners are accountable for their assessments.

"*And also, we have a few drivers at school especially for the older guys. We could deliver assessment to them should they be affected by Covid. Maybe someone is infected at home, or they could not print stuff because sometimes you needed to print certain things. For instance, in Geography they need maps, and they cannot print good quality maps at home, so we make sure that those people are ready to deliver those things in time. And in terms of those serious material that would go into the portfolio, we would try to track as best as we can how the assessment was done but we depended also on corporation with parents... understanding that this is a formal assessment, so it is best for their child to be under test and exam conditions. And also, there was a declaration that they had to sign to say they took this test under test and exam conditions, and it was not open book. And at time we did actually have open book assessments so as to avoid having to worry about whether a child would refer to the book or not, but we know that chances are it might happen, but we know the way we have setup an assessment such that even if you refer to the book, if you had not understood and studied the content it would not help you that much*." [Participant 6]

The participant indicated that they had to create the content for remote learning from "scratch" instead of depending on what was already online. They also recorded lessons which can be viewed at a later stage in case a lesson was missed. However, the participant furthermore indicated that they had to appeal to "Ubuntu" and "human nature" in considering for those who are less privileged and were impacted by the remote learning process.

"*…obviously recording the meetings that's a big one. Recording the stuff so that the child can later refer to the recording. Another big one was developing the actual content, so the teachers were able to from scratch create videos, interactive stuff. We focused a lot on creating the content ourselves rather than just depending on the stuff we find online. So, we had a whole catalogue for ourselves that we had created rather than just depending on stuff we had found online. So, we had a whole catalogue of stuff that we had create that learners could easily refer to at a later stage. There were asynchronous and synchronous parts especially in the first term. Asynchronous was where they basically got the work and they had to run with it, send email should they be*

stuck, and during synchronous were they had to log onto their devices and join the [Google] meets where we would actually unpack some of the things and find out how they are doing. And also, there was support in terms of data for our less privileged learners. We would make sure they have enough data. We appealed more to human nature, Ubuntu more than anything, [and] I think that was the biggest contingency plan" [Participant 6]

When asked this interview question, another participant indicated that recording of lessons was crucial to the learners who might have missed the live class sessions, and those session will be available for viewing at a later stage.

"*It's almost like we are in a constant set of readiness because things are also fluent at the moment, so we are at the press of a button ready to go online should we require to do [so]. And if we have learners or pupils or families that are suffering from Covid, then obviously those lessons are recorded and made available to them, so that they do not miss out during their time of quarantine… literally every day we have a list of absenteeism and [there are] kids that we need to record lessons for and then we make that available to them. Those lessons are not live though, they don't log into it live but they get the whole recording of the lesson in real-time the moment the lesson is over."* [Participant 7]

Furthermore, the participant elaborated that as a contingency to combat against load shedding, the teachers will deliver the sessions remotely from the school premises which has invested in an alternative power source.

"[With regard to load shedding] if it is from the teachers side it is slightly more difficult but the school in terms of that have, invested in a generator which automatically kicks in when we have load shedding unless a teacher cannot physically be at school due to Covid-19. We will teach from school which sort of alleviates that problem from the school's side that we are always available. Otherwise, then the teacher will always have to send word to the kids which they could do during that lesson time. Then from the kids' point of view the lesson is recorded, then the moment they have access to power and data they can catch up on that." [Participant 7]

Another participant emphasised again on the recording of lessons which are available at a later stage for those who missed lessons or who might need revision.

> "*One of the contingency plans would be the recording of lessons to be able to have backup of your lessons. [Another contingency is that], when schools reopened, we had sessions allocated in the afternoons so were children missed out they seat with teachers in the afternoons to assist them to catch up and be where they needed to be. Even last week when we came back to school officially, we spent that week, particularly with grade 8s to assist them to catch up with work they did online, just to make sure all the concepts taught were consolidated.*" [Participant 2]

The participant further denoted that remote learning was "quite easier for students that are at a higher grade." The participant explained that "we found that the older the child, the easier it is for them to adopt to e-learning."

With regard to contingency plans, there seem to be a common finding among all the participants. During remote learning, all lessons are recorded for students who might have missed the lessons due to other reasons. These recordings are uploaded onto a learning portal and ready to be accessible by learners at any time and any day. The recordings can also be further used later for recording purposes. According to the participants, the recordings also serve as a mitigation against the power outages currently experienced within the country. The findings also indicated an approach of a hybrid model which also enabled the participants to focus more on the learning methodology rather than relying on the marks of the learners. Using this approach, there was a consensus among the participants that it was easier from learners at a higher grade to easily adapt to remote learning as opposed to those at a lower grade. Such students required the involvement of parents to assist the teachers in ensuring the learner is engaged in the online learning and are able to submit any assessment give to them.

Vollbrecht, Porter-Stransky and Lackey-Cornelison (2020) conducted a study focusing at medical educators transitioning from face-to-face experience into emergency remote learning (ERL). During remote learning, most of the learning material was offered asynchoronously in the form of recorded lessons. Reading material and activities were

was uploaded to the learning management system giving students the flexibility to accessing these resources anytime and anyday of the week (Vollbrecht et al., 2020, p. 722). There was dedicated synchronous (live) time allocated to student outside the formal sessions to virtual communicate with the educators in an effort to answer questions, provide additional guidance and clarifications which students might be needing. The findings of the study indicated a mix of both the asynchronous (uploaded material) and synchronous provided some level of normalcy for students. Furthermore, providing some flexibility and educators adapting their material for remote learning can enable students to enagage and deliberate more during the events (Vollbrecht et al., 2020, p. 724).

Morgan (2020) explains that in order to improve on the communication a list of frequently asked questions (FAQ) was provided to the staff, teachers and parents explaining crucial information such as what to do if a student is unable to login or they are having technical issues, and how parents can better support learners during remote learning. There were also psychological assistance in place when learners have behavioural problems such as anxiety or depression due to online learning (Morgan, 2020, p. 135). Morgan (2020) also denotes that it is the responsibility of teachers to often check on students' feelings and anxiety levels, and ensuring that the mental and physical well-being of the students is intact. Teachers could also reduce the screentime of the students by providing handwritten assessments which can prevent symptomps such as headache, dry eyes, blurred vision resulting from screentime (Morgan, 2020, p. 137).

4.2.5 Does the policy outline the expectation of quality remote learning and how the schools should meet these expectations?

This interview question is aimed at understanding the quality of remote learning as compared to the traditional classroom face-to-face interaction. It provides insight of whether the policy clearly defined the expectations of retaining quality education within a remote learning environment. The following themes have been picked up from the participants when asked this question: Stability and consistency to face to face learning, lack of consideration for anxiety affecting remote learning from management, content delivery not as same as classroom, difficulty in tracking if all learners have required resources, teacher availability for additional assistance,

accountability from learners and lack of clarity for remote learning expectations. Other themes include encouraging varied teaching styles for teachers, encouraging interaction with learners, extra effort required from teachers, and ensuring learners are cultivated by lessons.

When asked this interview question, one participant highlighted that the school wanted to create "stability and consistency" by ensuring that remote learning is as close as possible to traditional classroom face-to-face interaction.

> "*Our biggest drive was that we wanted to create an online environment that was as close as the classroom environment as possible and that was for multiple reasons; to create stability and consistency for the children to ensure we have the same quality.*" [Participant 3]

The participant furthermore indicated the difficulties of working within remote learning by highlighting the emotional well-being of teachers and learners. The amount of content being taught as compared to that of face-to-face teaching can vary due to remote learning factors, indicated the participant.

> "*Something that was not always taken into consideration not only by the school but teachers and management across all schools was how anxiety inducing by the lockdown was for the children. You also have to acknowledge that it is a very different situation to be learning in [within an online space] ... and the way that you are teaching is going to be different. One of the biggest differences we found was the amount of content we can teach. We found that while you are online, the amount of content you can teach is not as much as what you will do in a normal classroom ... [however] the quality of teaching wasn't affected. We worked really hard to try and create consistency for the children.*" [Participant 3]

The participant also highlighted how difficult it is to track if the learners have all the required resources which can become frustrating for teachers.

> "*When using the online platform lots of time was spent on things such as, has everybody have their book? Is everyone on the right page? Does everybody have a blue pen? [This] was frustrating as you, [the teacher] was worrying*

about things one won't worry about in a normal classroom as you could walk around the classroom and physically check." [Participant 3]

Another participant explained that the children had to be accountable to keep up with the work and to continue attending the classes online without missing the sessions. Furthermore, the teachers also did their best to finish the syllabus as planned before they removed to remote learning, which was forced by lockdown regulations.

"*We were just in the mode of the show must go on. We must just keep trying our best and we need to get through this, and we need to keep on teaching the children the best we can. Our whole thing was that the students are not going to come back and we going to re-teach the work. So, it was very adamant that it was said that the remotely learning they must make sure that they keep up with the work, that they don't miss lessons. And because all those lessons were recorded, the kids could catch up with that. It was basically put in their own [hands].''* [Participant 4]

The participant elaborated that:

''The teacher did to the best of their ability to keep the syllabus going and to finish the syllabus as planned, and it was sort of on the children to make sure they watch the lessons, that they attend because they knew if they come back [to face-to-face classroom learning] that they will have to write on the work that was taught during online lessons. So, it was very adamant, and the teacher made that very evident that they must remember that it on their own and they must work. We were always available until 2 or 3 in the afternoon if they have got questions.'' [Participant 4]

The participant further denoted that they ensure that for those learners who don't have access to remote learning from home, had an option to come to the school premises to gain access while adhering to the lockdown regulations.

"*... we asked beforehand, will they have a problem with access, with the internet? Also, with the type of students we work with, we know that they do have access ... actually one of 2 students didn't have access and they had the option to come to school during the day, seat quietly isolated in a class and*

work from school… I think it was put over into the child's responsibility as well to take ownership for their studies." [Participant 4]

One participant from the Prep school highlighted that the management often "popped into" sessions to check and encourage teachers on various manners to deliver the lessons online. The participant highlighted that teachers were coached and trained and encouraged to use various teaching styles.

"*I supposed that's where the training and the coaching of the teachers come in just ensuring that [quality is met]. So, our teachers are really coached and managed I supposed, perhaps sometimes micros-managed by having management pop into their lessons remotely and that kind of thing to check and to encourage them still to teach in [varied] manners. So not only seating and talking but to share their screens with videos, to use PowerPoints, to do online quizzes, to use near-pot where children can access quizzes from their devices. So just encouraging interaction with the children you know, and I think sometimes for the teacher to stand-up at their whiteboard and teach as if they were in class. So not just them being in a seating position, just encouraging varied teaching styles to keep the child engaged. And also realising that now that the child is staring at a device you are competing with them staring at a device playing, gaming or "YouTube-Ing" or that kind of thing. So, you have the teachers working even harder to maintain that entertainment factor."* [Participant 5]

Another participant who was the director of the school indicated that a set of objectives were drafted to assist in measuring the expectations of remote learning.

"The schools principals and head of school set down clear parameters of what the school needed to achieve through online learning. These came with lots of extra effort on both students' side as well as the teachers. All sport was cancelled and extramural activities for the year. Extra time, extra effort and extra classes allocated to ensure students can get through all the work and the full syllabus would be taught." [Participant 1]

The findings highlights that the move to remote learning had put much pressure on the teachers. Teachers tried to keep the learners engaged as much as possible. This was to

ensure that they keep as much stability and consistency as that of a traditional classroom environment in order to retain the quality. Teachers felt overwhelmed as they needed to ensure that learners are engaged at all times and through continuous communication, ensure they had the correct materials for the learning within an online learning environment. The pressure of ensuring that learners have the same experience as the classroom learning resulted in levels of anxiety for both learners and teachers. This was due to being under pressure to retain the same quality even when the environmental dynamics for learning were not the same. However, teachers seem to use the same pedagogical methods which was used during classroom learning as their syllabus was not converted to align with remote learning to maintain quality.

The Global Education 2030 Agenda of UNESCO aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" through quality education (UNESCO, 2020). Morgan (2020) explains that using high quality resources is advantageous within the remote learning environment and teachers can create or search for other free online resources that may create learning opportunities. Raheim (2020) also indicated that finding innovative ways towards padegogical approach within remote learning can help improve institutional skills. Furthermore, Raheim (2020) explained that the learnings during remote learning were packed with extensive tests of trial and error, and both teachers and students had to learn new skills and also adjust to the new forms of learning. Furthermore, it is emperical for teachers to understand the technical and logistical aspects of online education to create awareness and pedagogical foundation for online learning environment (Rahiem, 2020, p. 1630).

4.3 Statement 2: How private schools implemented ICT for remote learning to respond to the Covid-19

4.3.1 What did the school do to ensure that teachers and learners understand the ICT tools used for remote learning?

This interview question is set out to understand the effort by the school and its policy in ensuring that both the learners and teachers have the necessary skills to successfully operate within an online environment and specifically within remote learning. When

asked this question, different schools had different approaches in ensuring that teachers and learners understand the information and technology tools for remote learning. It was evident that some of the schools did not have enough time to upskill their staff due to an abrupt move to remote learning, while others had an extensive training due to their digitalisation policy for online learning.

Some of the themes which were picked up from the participants, in relation this question includes intensive training, proactive in tackling and providing recommendations, no formal training but relied on technical ability of parents, children and teachers, and guideline document for parents in using the tooling for remote learning. In some cases, it was up to the learners to ensure they have a device for remote learning and the school did not in any way assist with that. Other themes included the inability to follow up on training, and the considering that older experienced teacher might not be technologically inclined.

One participant indicated that even though the school did not dictate which device needs to be used for remote learning, they dictated the platform to be used. Furthermore, the participant highlighted that the school showed little grace to teachers and learners when moving to remote learning as they are an "affluent private school".

> "*I supposed in terms of learners and pupils, as a school we showed a little less grace than we would our teachers. And when I say less grace I mean, we are a private school and we are an affluent private school, so at the start of remote learning, it was a matter of necessity, and so this is the way the school is moving, in order to continue the curriculum and in order to maintain a way forward and you will need a device. So, we did not dictate what device, but we dictated what your device will need to run. So basically, the device will need to run zoom, and it needed to work the Showbie platform which essentially just an online platform. So that was the only variable, and we didn't stipulate if it can be an iPad, a laptop, a desktop or whatever that kind of thing, but there [were] no negotiations to that. It is basically this is what you need for your child to continue schooling, end of story."* [Participant 7]

The participant also indicated that teachers had to ensure they buy their own equipment to deliver remote learning at their own cost to ensure that they can effectively deliver

remote learning. However, the management was responsible to ensure that all the teachers have a "running laptop" in order to be able to continue teaching within a remote learning space.

> "*To ensure that teachers are well equipped, that is also tricky because I supposed teachers were at the messy of the board members' generosity and basically the board members of the school ensured that everybody had a running laptop. However, the school's policy is that teachers have their own laptops so I would say out of our staffing of about 56, there we only about 4 teachers who didn't have a laptop in which case we basically sent them home with one of the school's computers from the computer centre. So, their basic tool was a computer to run what they needed to do, and then any other technology or device that they wanted to make the job easier or more effective or more advanced, it was at the teachers own cost. And many of our teachers bought an additional iPad, an additional app pencil, some the workstations that are attached to their desk where they could project from the top, and things like that, and that was essentially for their own account. So, the school ensured you have one device, to teach remotely, but all the add-one are your own thing*."

The participant also highlighted that as the prep school, they did provide the parents with a guideline document on setting up email and a tutorial on how to navigate the platforms used within remote learning.

> "*I think it is a fair statement to say it was dictated, to say this is what we are doing, and this is what you will need. I will qualify and say that we did put documents out though to the parents exactly step-by-step guiding them on how to download zoom, how to open it, how to open an account, how to do the same with Showbie. If you don't have an email address this is how you create one. So, there was a document that we compiled, to do that step-by-step, so they weren't completely thrown in the dark, but it was never a negotiation*."

Another participant mentioned that intensive training was done for the learners including a "How-to" video tutorial for those who might struggling. The participant also highlighted the surveys were also done in order to gather information on

recommendation or any improvements which might require with regard to the remote learning process.

> "*When we saw things were going the way they went, we made sure we had days for the grades that they had to bring their devices to school. We made sure they know their passwords, we made sure they knew how to logon, how to answer calls and how to submit work. So, we had quiet intensive sessions with the kids to train them before we went into hard lockdown on how to use these things. And then also on their [Microsoft Teams] a video on "how to" was posted for those kids that might have struggled or missed out on the training in school. We sent out surveys to make sure what people's connection data were and what challenges they might have around that and then sent recommendations on things that they would need, and they should look at. So, we were quite proactive in making sure that everyone was ready to go online when we went online.*" [Participant 7]

One participant highlighted that, the school organised workshops to upskill the teachers however, there was not a proper follow-up to ensure that all teachers understood the platforms or skills taught within the workshops. The participant also highlighted that the older generation found it difficult to quickly get up to speed with learning the tools as some were not necessarily "tech savvy".

> "*We would have workshops were the teachers are taught how to use various platforms but there wasn't always a follow through to make sure that all of the teachers understood it. There would sometimes be people who might have not be as tech savvy or don't really use technology or computers in their everyday lives that really battled with some of our online platforms ... and these teachers fall a bit behind in terms of using those platforms to the best of their ability and using it to really benefit the children. The older generation really battled with technology especially those not using technology frequently, as they need to use it several times in order to understand and this may affect them effectively delivering the lesson.*" [Participant 3]

The participant furthermore indicated that due to some of the teachers' ability to not fully understand some of the tools, despite some of the workshop which were done,

they spent most of the time worrying about how the technology worked, rather than focusing on teaching the learners.

> "*People who don't use technology full-time almost need constant revision [and] constant repetition. They need to do it several times in order for them to become sort of fully in it. They were getting so worked up about trying to use [technology] the way they were taught to use it which almost affected their ability to teach a lesson effectively*." [Participant 3]

The findings indicated that, different schools had different approaches in ensuring that teachers and learners understand the information and technology tools for remote learning. It was evident that some of the schools did not have enough time to upskill their staff due to an abrupt move to remote learning, while others had an extensive training due to their digitalisation policy for online learning. Furthermore, schools did not put in much effort in upskilling the learners as the believe was that, as affluent private schools, they expect their learners to already be technologically savvy. The findings also indicate that the older generation of teachers had more challenges with delivering online learning as most frequently use technology as compared to the younger generation. Parents also had to ensure that learners have the necessary devices to ensure that they can attend the lesson remotely and connectivity, and the school was in no were involved with this. Parents require some level of digital skills in order to support learners with remote learning as per the findings. There is evidence of parental involvement required within digital learning for learners to adapt swiftly.

In supporting the above findings, Ferri, Grifoni and Guzzo (2020) highlights that instutitions should be responsible for choosing adequate platforms for online and remote learning and develop interactive learnings. UNESCO (2020) also provided a list of free educational platforms and resources for online learning tailored for educational institutions. Yusuf and Ahmad (2020) suggests that institutions needs to provide workshops and training for both teachers and students to improve both the technolocial and pedagogical competencies during online learning. Furthermore, Ferri et al. (2020) agreed with Yusuf and Ahmad (2020) indicating the necessity of implementing clear steps during online learning such as "preparing facilities, training with current technology, providing guidelines for teachers and students".

In an effort to investigate digital divide in access to remote learning during the COVID-19 pandemic, Azubuike, Adegboye and Quadri (2021) set to answer if there are significant differences in learner access to digital tools and other remote learning materials? Furthermore, the study seeks to undertstand the category of parents which are unable to support children during online remote learning. The study found a statistically significant relationship between the parent level of education and ability to support and assist children with remote learning (Azubuike et al., 2021, p. 7).

4.3.2 How does the schools monitor and evaluate that remote learning is working?

This question aims to get the understanding of how the school monitors and evaluates that remote learning does what it is intended to do. It gives information as to what the school did to ensure that remote learning delivers the strategy as expected. Considering that most of the schools implemented remote learning as a response to Covid-19, specifically lockdown regulations, it is important to understand how they ensure that it does not compromise both the learning experience as compared to the traditional face-to-face classroom learning. A few themes were gathered from the participants' responses in relation to this question: Continuous assessment, well-being of learners, online quizzes and tests, monitoring learners' attendance, continuous communication with parents to ensure learners are sticking to the rules and regulations.

When asked this question, a mathematics teacher mentioned that the school performed multiple quizzes through the Microsoft Teams platform and also maintained continuous communication with parents where they had concerns regarding the learner's performance.

> "*We did lots of MS Teams quizzes to see that the children are on track, that they understand the work. We also did [tests], were they had to write the cycle test, we continued with testing all throughout and if a child has dropped quite considerably, we would be in contact with the parents or if a child didn't write. The whole communication with the parents were quite important. So, … even if they did not logon for one day, we would send the parent an email and say, so and so, was upsent or did not attend an online lesson. There is a problem please reach out to us. So, we were very much about the communication with*

the parents. And I think with the testing you could quickly see whether a child is attending the lesson or not." [Participant 4]

Another participant also mentioned that assessments and feedback from both the learners and parents was a good way to monitor and evaluate how remote learning was progressing and how it was received. The participant highlighted that the school focused more on ensuring that the learners understand the concepts rather than the marks they are getting on the assessments.

"*... first and foremost, its assessments. You can sort of gauge where the learners are with the assessments which you are giving, and you compare that to how the learners were, say in the previous years. So, you just look at the raw data and also it is feedback from the kids themselves which is one of the big once because in our remote learning, it is not about what marks are you getting but are you understanding what we are saying so the learning had to happen. Whether the mark is good or not we wanted to understand whether the kids are able to pay attention, they are able to ask questions, they are able to get feedback on time. I know they were also surveys sent to the kids and also the parents, so we create a feedback loop to actually see and also like I said, we have a digital person in the school, so that lady was able to say okay, maybe this one doesn't work quite well and how about we try this*."

The participant mentioned that they were able to quickly adopt and become agile in making improvements based on the feedback to ensure that the process is seamless. Furthermore, the participant highlighted that engaging the learners outside the academic space where they are able to provide honest feedback regarding remote learning gave the school an advantage to improve on the process whilst providing emotional support to the learners where it was required.

"*So, they were a number of platforms that we could try to ensure that the quality is good and also feedback from colleagues where we feedback into the system, this works, this is what I picked up. And the biggest thing is pastoral section of the school were the tutors and house masters were able to engage with the boys outside the academic space and just find out hey, are you actually winning. I know in the morning there were check-ins, as to find out how the boys are doing and just a general check-in on who is attending, who is not*

attending and we would have meetings about that and we would try to make sure that whoever is or we feel is behind or was left behind, we try to support them emotionally so we were invested in the emotional wellbeing of the learners and I think if they are emotionally okay they tend to engage better and the marks and learnings tend to be better." [Participant 6]

The participant also highlighted that reassurance from the learners was used as a way to monitor and evaluate remote learning. This communication allowed the schools to get honest feedback giving the school agility in improving the experience.

"*… These tutors are people who they are with since grade 8 all the way to grade 12 and they just have honest heart to heart: are you okay? How are you finding this subject? And obviously we are professionals, and they are able to say okay, kids are struggling with one, two, three you know! Then as a teacher or as a department or as a school then we are able to say okay, let's try to improve on this specific section of our delivery.*" [Participant 6]

Communication seems to be a major factor according to the participants to ensure that remote learning was working. There is a common perception that continuous communication amongst teachers, parents and learners enabled the school to monitor and ensure that the rules and regulations are adhered to. Assessments was also another form of monitoring the learners to ensure that the learning quality is retain within the online space, and class attendance is as expected. The participants also shared unanimously that feedback was important from both parents and learners. This was done through surveys and informal chats with the learners to understand their emotional wellbeing and academic challenges of learning within a remote environment. The feedback was also contributed for the schools to improve the experience of remote learning for teachers, parents and learners.

According to the finding by Carter Jr, Rice, Yang and Jackson (2020) different strategies such as explanations and strategic questioning can be used to undertstand how students learn online and monitoring the engagement. Furthermore, teachers or facilitators can also ask direct questions to the learners about their expectations on online and remote learning in support to the above findings (Carter Jr et al., 2020, p. 324). The findings above also higlighted the importance of feedback from both

students and parents. An internal parent survey conducted by Newtown House (2020) was able to provide the school with insight of how parents perceived remote learning, as highlighted. According to a study by Newton House (2020) there is a perception that the amount of time spent online is adequate and the learners have adequate breaks during remote learning. Furthermore, parents seemed to be satisfied with what the school has provided regard to remote learning. This information enabled the school to continuous monitor and evaluate their strategies. Carter Jr et al. (2020) also highlights in their findings other strategies to consider includes providing pacing support and supporting families.

4.3.3 How will the school know if the policy implemented is working or not?

This interview question addresses the notion of understanding if the implement policy which support the use of information and communication technologies to deliver education through remote learning is working or not. This question was posed to the participants in order to gather information about what actions were the schools taking in ensuring that the implemented policy in support of remote learning meets its strategic goals.

A number of themes were picked up from all the participants when answering this questions. These themes include accountability from both parents and learners, open communication and feedback, parent supervision, continuous monitoring and adaptability, authenticity of the work submitted by the learners. Other themes include continuous feedback, agility in updating policy, testing and assessment.

When asked this question one participant mentioned that they ensured that the learners remain accountable by continuously performing homework which was submitted before the lessons. Also, the school has received positive feedback fostered by the open communication policy and through continuous communication according to the participant. Furthermore, the participant indicated that families ensure that learners are accountable in attending remote lessons and they are performing required assessment and submitting them as required.

> "*It relates very much to the feedback that we've have got. We got very positive feedback and then also the kids know we continue to do rollcall and we follow-up on a daily basis, sort of have a little bit of accountability taking place. And also, like in my subject they had to submit their homework before the start of the lesson so I can sort of see there quickly that everything was done. And it also that immediate feedback, so people felt there wasn't really much of getting away with things because there was open communication the whole time. That immediate and continuous feedback did help. It is lots of admin, but it really did help, and it sorted things out and there was lots of accountability from families too to make sure that their kids are online and that they are submitting the work that they should.*" [Participant 7]

The participant furthermore indicated that the mid-year exams were a good indication of whether remote learning was working or not. However, it was realised that the traditional face-to-face classroom teaching "still stays the best" as indicated by the participant.

> "*I think we were fortunate enough to write a mid-year exams last year and that also gave us a good indication and also to parents … after the exams they realised that face time, real time for teaching still stays the best especially in terms of accountability for teenagers because there is only so much you can do.*" [Participant 7]

Furthermore, the participant implied that accountability for learners is more likely to happen on face-to-face interaction rather than online, as it would be difficult to know if the learners are distracted by other activities while they are attending remotely.

> "*[Learners] can logon and then they can be watching Netflix behind. And I think lots of parents also realised that someone needs to watch the kids as they are not discipline enough to be unsupervised and work*" [Participant 7]

Another participant highlighted that internal communication between the staff and management was crucial in monitoring the process and continuously reviewing. Furthermore, the continuous communication between teachers, management and parents to ensure that everything is working well and become agile in adapting and improving the process was important within the remote learning environment. These

continuous assessment of the remote learning process also relived that in some cases, some parents are actually performing learner's work, which can result in the child not understanding the concepts taught, at the end of the day.

> "*It requires a lot of communication between the teachers and management [during staff meetings] to say that which aspect of the [process] are the children really engaging in, that we were able to monitor through the platform and which aspect were not working. Checking what they were actually completing and what they weren't completing. This is when we also started realising that parents are doing much of the online work which was problematic*" [Participant 3]

Another participant emphasized on communication being the key to evaluating remote learning.

> *"I think it's also through communication with each other to see if we are on the right track and its working. If something was too hard, we would speak to each other and see where we would adapt. Some of the expectation that we had through testing, seeing that it is effective and that it is working. And I just think through communication a lot. We had staff meetings everyday were we spoke about what is expected, is it happening, is it working? I think basically through communication with each other and seeing that we are on the right track"* [Participant 8]

The participants indicates that open communication with parents, learners and also amongst teachers and management enabled the schools to re-evaluate their policy. The continuous monitoring and feedback enabled to school to quickly become agile and adaptive in re-evaluating and updating the policy. Accountability from the parents and learners was an additional effort which the schools relied on, to ensure online lessons and assessments were being attended to. Through the different platforms and assessments, the schools were also able to check the attendance rate and participation of learners towards the curriculum. One of the challenges common to participants was ensuring that learners submitted authentic work and had to declare there was no assistance from the parents or guardians. This is a concern to most schools as indicated by the participants, since the parents were continuously under the child's supervision to ensure they complete is required of them.

In order to ensure if remote learning is working or not, Eder (2020) denotes that policy makers and administrator needs to continually review policies and educational programmes on how they impact remote learning pedagogically. In a report Heitz, Laboissiere, Sanghvi and Sarakatsannis (2020) indicates that institutions needs to become effective in addressing a range of social, emotional and human needs to enable the learners to learn. Avanesian et al. (2021) indicates that educational content should be designed specifically for online and remote learning. Furthermore, this content should be able to address the learning needs for learners at different educational levels. Institutions also needs to cultivate a culture of continuous improvement, offering more teaching support and sharing best practices, and getting feedback on remote teaching (Heitz et al., 2020, p. 3).

4.3.4 How will the schools encourage personal connections between the teacher and student?

This questions aims to uncover how the schools manage lack of personal connection which might occur between the teacher and the learners due to the remote learning environment as some of the physical and body language might not be picked up within this environment. The participants' answers are gathered to understand how the teachers fostered and encouraged personal connection within the remote learning environment. Some of the themes which were gathered from the participants includes personalised zoom sessions with students who are battling, working closely with therapist to proactively identify emotional, social and psychological issues for students, teachers' personality to foster personal connection and empathy to create rapport and personal connection. Other themes include camera always on policy, involving every learner to discuss and interact, individual teacher skillset, making quizzes fun and interactive and general check-ins.

One participant is indicated that each teacher's personality can bring about personal connection with the learners. The participant highlighted that the uniqueness of each teacher and their teaching style can appeal to learners thereby bringing about personal connection. Furthermore, the participant also indicated teachers would post personal notes on the online platform in an effort to encourage personal connection. The school

also have employed a number of therapist to assist learners who might be battling with emotional, social and psychological difficulties.

> "*I think each teacher's personality shines through, and each of their personality brings about different personal connection with students. You know you have some teachers, for an example, some teachers who are more humorous that others, who can appeal to the more sarcastic witty side of the students, creating personal connection. On our online platform, teachers would post personal notes to the students focusing on encouraging them, or just creating that connection if they knew something was happening in their lives, whether it was, you know, their dog died or that kind of thing, and they actually making that connection personally. And then we do also encourage our teachers to do personal zooms in the afternoon, with students who are personally battling, and that battling was identified not only just by academic battling but also emotional, social and psychological battling. So, we do have a benefit of having 12 onsite therapists in our school and so we work quiet closely with those therapists to understand each of our children and their difficulties so that came quite handy, in which a therapist can tip us off and go, the child is battling with feeling lonely at the moment and then the teacher would do an afternoon personal zoom with them.*" [Participant 5]

Another participant indicated how the use of different "strategies" such as camera always on policy to ensure that the teachers are able to see each learner and vice versa. The interviewee highlighted that such strategies kept learners accountable to the lessons and prone to less distractions. The teachers also relied on parents to encourage the learners in getting more involved and complying to remote learning guidelines.

> "*I think there were simple strategies, and there were strategies that required a buy-in especially from the folks as well. Simple strategy for instance is just asking the learners, everyone turn on your camera, so if people are seating in front of their screen and they can see, you can see them, they turn to pay attention rather than just having a blank screen. But if I can see your face, you would probably be seating in your desk especially for kids because sometimes kids want to play around in their rooms or be on their phones. So, we requested and sort of made it a rule that every time we have a meeting, we need to see your face so that was one simple strategy. And we also explained to the parents*

as to why that is important, so the support of the parents was important as well, so the parents also pushed the kids" [Participant 6]

The participant furthermore denoted how important it was for individual teachers to find different ways in engaging with the learners and keep them intrigued with the lessons. The ability to ensure that every learner is included in discussion is also important in encouraging that personal connection. This was achieved by randomly calling the learners' names during the discussions while also considering that not all learners express themselves in the same manner. The teachers also shared strategies which worked for them with their colleagues in to improve on fostering personal connection.

"*... as a teacher then you understand that you want engagement, then how you ask your questions, how you phrase the lesson, you make them the centre more so than you would have done if you were in a classroom. Maybe you tell then to say, lets discuss a particular thing and we going to start off say with James, and then from James we are going across the row, and we are just going to discuss this. That means that everyone knows that I have an opportunity to speak, there is an expectation for me to speak. And then obviously you play into the characters as well. There are kids who are just good at speaking, and they are good at prompting other kids to speak so you need to be aware of your learners, the dynamics and how you can actually win them over. I think with that one it required a particular skillset from each individual teacher and when we have meeting, we would discuss that I found that this worked*." [Participant 6]

The participant also highlighted that making lessons interactive and fun can improve the relationship and connection between the teacher and learners and can make the online remote lessons more interest. The participant also highlighted that general check-ins with the learners before the lessons can also improve on communication and interaction.

"[Platforms] such as google meets and Microsoft Teams and zoom are good for delivering content and or speaking to people remotely. Now for kids you would have things such as you will play a quiz online, then it becomes like an interactive thing, like a gameshow time of thing. You put it up on their screen

and you say let's play this game. For me, my lessons I open up by just having a general check-in across the learners especially with the older groups because you find that you are teaching 15 or 12 learners, so it's easy to just have a one minute, are you good, talk about whatever they are wearing, teasy them a bit it creates a community." [Participant 6]

Another participant also emphasized on the "camera-on" policy to ensure that learners are engaged. Furthermore, there were similarities with other participants that, randomly calling learners by name will keep them concentrated and encourages continuous communication between the teacher and learners within the remote learning environment.

"*We do that by engagement with the students during the lesson via camera on, mic on policy and the teachers as they are doing the lesson with call on the student [by name] and ask them for answers and have the constant interaction with them. The students are able to communicate with teachers via google classroom and through email foster that constant communication between students and teachers.*" [Participant 2]

The findings indicates that participants seem to have different methods in ensuring that they foster personal connection between the learner and teacher. However, there seems to be a common policy of "camera-on" for the learners to ensure that the teachers can see that leaners are paying attention and doing what they are supposed to do. Additional effort was also put on those students who might be struggling to ensure they get extra lessons and one-on-one sessions with the teachers. The personal sessions enabled the teachers and learners to create rapport, further encouraging personal connection. General check-in with the learners and also randomly calling a learner by name during the lessons, enabled the teachers to connect more with their learners. The teachers' personality and teaching style further used to further foster personal connection. The continuous engagement with learners enabled teachers to identify any emotional and social issues as indicated in the findings.

Castelli and Sarvary (2021) highlighted that in order to promote interaction, discussions and share ideas openly in real-time during online learning, synchronous remote learning approach is beneficial. Castelli and Sarvary (2021) denotes that

synchrounous remote learning can increase social interaction, improve effectiveness of remote learning and build a strong sense of community. Furthermore, a cameras on policy was encouraged during the synchronous remote learning, according to the study, in order to communicate with nonverbal cues such as smiles, frowns, head nods, looks of confusion (Castelli & Sarvary, 2021, p. 3566). This can be beneficial for teachers to be able to adjust accordingly and improve students learning. In conclusion, Castelli and Sarvary (2021) identified a number of video conferencing strategies for teachers which can be applied during remote learning to encourage students to turn their cameras on, during sychronous sessions. Please refer to the Table 2 for these strategies.

Video Conferencing Strategies
Do not require video cameras to be turned on and do offer alternatives
Explicitly encourage camera use, explain why you are doing so, and establish the norm
Address potential distractions and give breaks to help maintain attention
Use active learning techniques to keep students engaged and promote equity
Survey your students to understand their challenges

Table 2: Video Conferencing Strategies (Castelli & Sarvary, 2021)

Through a qualitative study Frank (2021) had similar findings. Frank (2021) aimed to determine instructional strategies which are effective in fostering student engagement in experiemental learning. Frank (2021) found that a number of strategies can be used to foster the personal connection between the teachers and students which includes morning meetings, small group work and daily check-ins. Furthermore, body language and tone of the voice were important during online sessions as indicate by Frank (2021).

4.4 Challenges which private schools face in using ICT for remote learning

4.4.1 How effective is remote learning?

It is important to understand the effectiveness of remote learning as compared to traditional face-to-face classroom learning. The participants have used remote learning

for various reason such as digital transformation however mostly used it as a continuation to provide learning during lockdown. The participants gave the impression that they even thought there were challenges during the implementation, things got smoother as with time, as they were agile in adopting to the process. The themes which came from the participants in answering this question include socio-economic environment, age group is an important factor, the ability for teachers to be open to learning and engage their material in a digital space, loss of personal time and a holistic integrated system is required. Other themes include stability and routine.

One participant indicated that one cannot attribute the effectiveness of remote learning to one factor however there are a number of factoring which needs to be considered holistically. The age group of the learners is also important as the older group is found to be more technologically savvy than the younger age group, which also requires more assistance from parents. The participant also mentioned the importance of the socio-economic background of the learner, as remote learning requires a dedicated and conducive space for learning. Furthermore, remote learning is not tailored for all subjects as the participant highlighted and believes that remote learning is not for everyone. Teachers also needs to be agile and not only focus on traditional classroom teaching to ensure that remote learning is effective, mentioned the participant.

> "*I think it depends on what you are teaching and the age group, and the level of organisational skill that a particular learner has, the level of discipline, the academic literacy, the conditions at home, the teacher. I think there are so many moving parts. At our school it worked, I am not sure whether it would work everywhere. I think at our school it worked because even prior to moving to a remote type of environment, you had learners who are okay with technology, the socio-economic background is good, and the learning space. The teachers are okay, and they are willing to learn because I think it is very important to have teachers who are willing to engage with that type of delivery, because if you are going to have teachers who are going to say, I am used to be in a classroom [and] this is who I teach. I think there are so many moving parts that, that question in itself requires us to look at those moving parts*" [Participant 6]

Another participant believed that remote learning was not that effective as they had to revisit some of the content when the learners returned to face-to-face classroom teaching. Furthermore, the participant believed that it is a good option as an alternative to face-to-face classroom teaching.

> "*It is such a difficult one because we did really well in school last year to make sure we didn't lose any time in terms of completing the curriculum. During the online class time we did very well to ensure that when [learners] return to school, we were able to patch all that content time. Having said that, I don't know if what they leant while they were at home has kind of stuck on their mind and it's because we lost some personal teaching time. We have lost time for mediation and reviving content with them to see what they have actually grasped, while they were at home. I would not choose to do remote learning at all. It's not something which I think it is effective, however I think we were very blessed to have it as an option*." [Participant 3]

Furthermore, the responded added to that children at a younger age require more "stability and routine of being in the actual classrooms", rather than attending their lessons online.

> "*I don't see how [remote learning] would be beneficial for [the learners] than being in the actual classroom. I think they are old school in my thinking … particularly if you don't have strategies or things in place that make online learning easier. I think for the children at the younger level they really rely on the stability and routine of being in the actual classrooms*" [Participant 3]

One participant indicated that it would be unfair to state whether remote learning is effective or not as it was forced by lockdown regulations and there was less time in planning and implementing it. The participant also noted that remote learning got easier with time and denoted that psychological effects of dealing with the pandemic also did not make it easy when remote learning was implemented.

> "*So, I would definitely say the second time around, this year, is a lot more effective than the first time around in hard lockdown. I think evaluating remote learning in the hard lockdown is probably unfair because it was so new and to everybody that they were actually learning the tools over and above learning the curriculum. And then also if you just understand the circumstances around*

lockdown, an event which no one in this generation has at least have ever had to face. So, then you are dealing a lot with the psychological side of it, which I think too priority over schooling at the time." [Participant 5]

The participant however indicated that with time, teachers and learners were able to warm up to remote learning as they learned how to embrace it with time, and they were more prepared than when it started. The participant believes that the more people understand the environment and framework within remote learning, the more effective it will become however, it would not be the most effective way of delivering education as opposed to the traditional face-to-face classroom learning.

"*However, this year with remote learning I think everybody is more prepared and a lot more in the framework of accepting it, so I would say it has been a lot more effective. I think the staff have got a lot better at it. It definitely has been more effective. I think would we ever say it is the most effective way of teaching? Absolutely not. It will never ever be replaced at least in our circumstances with face-to-face teaching. It is facilitating a purpose of keeping our children educated but it doesn't substitute [face-to-face teaching]*" [Participant 5]

Another participant had conflicting response on the effectiveness of remote learning. The participant highlighted that self-management is required for learners within a remote learning environment.

"I would say it really worked for some students and for other students again, I don't know. Some students really enjoyed it and some students hated it. They hated being alone, isolated no connection with other students. Other students flourished on it. And I think afterwards when we returned to face-to-face learning, lots of students said but they could actually recommend going to online because they really enjoyed being by themselves, organising themselves, keeping track of their own work. I think its beneficial for a certain type of person [and] not for every child. You have to be very organised, and you have to have self-management. It also depends on what method the teacher taught with. I think it's also subject specific as well, so there is so many variance to that" [Participant 8]

The findings indicates that remote learning can be effective under specific circumstances. The participants however highlight the importance of face-to-face learning and the level and effort of maturity required for remote learning to be effective. Furthermore, the findings highlight that remote learning depends on the level of age group, favouring the older age group as compared to the younger age group. There seems to be a unanimous perception that as effective as remote learning might be, it should always be using as a secondary or alternative form of delivering education. As most schools implemented remote learning during lockdown, the findings indicated that with time, the effectiveness of remote learning increased.

Hobbs and Hawkins (2020) denotes that there is a difference between being a digital consumer and a digital learner, indicating that not all students who are tech savvy will do well with remote learning. Furthermore, the findings highlights that remote learning can't be compared with "in-person" learning. Hobbs and Hawkins (2020) also found that remote learning for younger learners was difficult as they required more assistance from the parents. Singh (2003) indicates that using blended learning approach can be affective as it includes various forms of learning tools such as real-time virtual platforms, self-paced online courses and knowledge systems. Kelley (2020) highlights that personal, authentic and hands-on experiences foster engagement and learning. In a study which investigates the Chemistry Lab formats during remote learning, Kelley (2020) found that hands-on practical experiements are ideally prefered for face-to-face interaction rather than for remote learning.

4.4.2 What are the key issues being faced in remote learning?

This interview question aims to root out the key issues which private schools faced during remote learning. It seems that there are mostly common issues which were unrooted throughout the interviews with the participants even though some faced individual issues. Common issues faced within the remote learning environment included themes such as lack of social interaction and social aspect of learners, social anxiety, isolated environment, online fatigue. Other themes uncovered was that home environment might not be ideal for learning and the inability to take a break from the device, dedicated workstations, expectations not clearly defined, parents' interruption,

lack of dedicated school environment, inability to monitor learners and parents' expectations.

One participant indicated that the online fatigue was a huge problem and affects remote learning. This was also due to that the current generation is "completely being reliant on their devices" during their free time and now they also spent their time on remote learning which can result in online fatigue. The participant also indicated the importance of physical activities which may be deprived by remote learning.

> "*I think at the moment, and I supposed fatigue is a huge thing, and that's probably global. People are tired of seating at their devices. So, if I think from a pupils' point of view, online fatigue has 2 aspects: the first aspect being they are absolutely tired and exhausted of starring at a screen for schooling for most of their day. But then the second aspect is that because they are a generation of completely being reliant on their devices the afternoons and evenings are not spent just doing physical activity or doing whatever, they are on a device. As much as you tell the children at each and every lesson, go on in the garden, go swim or do whatever, have a break from your device, they don't. What do they do? They go straight into playing [games]. So it is that online fatigue which is sometimes self-inflicted on them."* [Participant 5]

Furthermore, the participant explained that:

> "*I would probably say another key issue with remote learning is the unfavourable home environment and I supposed some of them is just circumstantial in terms of everybody was thrown into this, now my home is a school, it's an office. So, everybody has had to step out and kind of shift from offices and school situation, and so the home is now such a busy place, whereas a classroom is a much more structured and controlled and it can be silent, it can be everybody is seated doing the same thing if you want it to be whereas the home learning environment is not that, which actually requires a child to really struggle to concentrate.*" [Participant 5]

The participant indicates the importance of face-to-face classroom interaction and highlights that it is more "structured and controlled" that remote learning as the learners' seat in different settings within their homes.

Another participant indicated that one of the key issues for teachers is the inability to track the learners and ensure that they are accountable for their work. The participant also elaborated that parents can also be faced with the same issue as the teachers if the children are left alone and unmonitored during remote learning.

> "*The key issues I would think, first of all from a teachers' perspective it's not knowing or being that engaged with the learners, not being able to track if they are there, if they are listening, if they are doing the work, if they are understanding the work, you can be forth from your side, but you don't really know if it is being received from the other end. And I think also from a parent and a child's perspective, the child can say but I am online, and it shows that he or she is online, but if the parents are at work is that child really online? Aren't they seating, you know you have 2 tablets, one you are watching Netflix and the other you are just connecting to the teacher? So that I would think is a big one.*" [Participant 4]

Also, the participated highlighted that learners may not be as forthcoming if they are having any difficulties with lessons or if they had fallen behind, as opposed to traditional face-to-face classroom teaching. The participant also highlighted common issues indicated by other interviewees such as lack of ease communication and how lack of social interaction as some of the issues which comes with the implementation of remote learning.

> "*… not all students will reach out to you and say, but listen, I don't really understand what is being said there. So, knowing if the students are on-purr receiving it from that end I think that's a big issue. And I think remote learning it brings so much . . . I think people are meant for socialising, seeing other people. It's very lonely remote learning, especially from teachers' point of view that communication, you can't easily at break see somebody and say, I just want to quickly ask about the student what's going on. It becomes like you have to remind yourself the whole time send that link out asking. It's so much easier to be in so much proximity with those teachers and communication with each other.*" [Participant 4]

The participate furthermore highlighted that learners are unable to know if they are on the right path and it is difficult for them to compare their progress with other learners

or even easily communicate as they would do in classroom interaction. Remote learner can result in learners becoming less confident when communicating with each other as indicated by the participant. The participant believes that remote learning is very lonely and acts as a communication barrier between teachers and other learners.

> "*You know also tracking whether you are on the same track as other people, you feel so lonely. You feel so, are you on the right path? are you doing the right thing? Whereas if you are at school, you can just grab someone and ask, are you also feeling overwhelmed? and she would say yes, then you feed on each other's emotions. Whereas remote learning is very lonely, and I think from the students' perspective as well, they can't just ask a friend and say, can you just tell me quickly how to do this in class? And I don't think they feel confident enough to reach to their friends. It causes a barrier of I need to message that person to ask, or I need to message the teacher. If a child is already reluctant in class, they are going to be really reluctant with online learning. So mainly I would say, are the children really engaged on the other side? And also, it's a lonely environment*." [Participant 4]

Another participant denoted that there are "lines were very blurred" when operating within the remote learning environment and this might be due to lack of policy, structure and also that learners are within their respective home without proper supervision from the school. The interviewee alluded that remote learning might not be "a true reflection of what a real-world classroom lesson".

> "*I think the lines were very blurred for the children and even for some of the teachers between like, working from home versus working at school. So, you have children seating in their pyjamas on their beds, eating breakfast while they are supposed to be participating in a lesson, which is not a true reflection of what a real-world classroom lesson would be like. So, I think those lines were blurred for lots of children, and I think for a lots of teachers as well*." [Participant 2]

Furthermore, the participant highlighted that continuous interruption from the parents during online lessons may throw off the learners and also the teachers. Parents often randomly checks on the learners or might make background noises which may interrupt the lesson as opposed to when the learners are within a dedicated learning

environment like a classroom. Also, parents might put the children off-guard without intending to by checking if the learner is doing what they are supposed to do.

> "*I think just because they were at home, it was sort of confusing for them. You are seating at home but trying to think like you are seating at school. I think it was particularly different for the children who had sort of helicopter parents, that was hovering over their shoulders the whole time and checking what was going on because they are supposed to be listening to the teacher online, but the parent is talking to them in the background. We had lots of parents who would randomly interrupt our lessons, which was quiet off putting for the teachers and also off-putting for the children because why is someone who is not my teacher asking questions or doing that kind of thing*." [Participant 2]

The participant also highlighted lack of personal connection and social interaction. The interviewee believed that remote learning makes it difficult for the teachers and schools to monitor learners. According to the participant, remote learning makes it difficult for the teachers to understand what the learners might be struggling with and if it relates to the content, lack of understanding or the learner not paying attention to the lesson or content being taught.

> "*And again, the inability to really monitor what is happening in that very moment. So as much as you can check on later on the work that is already submitted, obviously there is a problem when you check the work that was submitted is incorrect. Was it incorrect because the child didn't really understand, or it is incorrect because the child didn't even try and listen in the lesson? The biggest thing for me was the lack of personal interaction.*" [Participant 2]

Furthermore, the teachers were faced with parents' expectations and also parents taking over as teachers as the learners are learning from home.

> "*I think one of the biggest difficulties we faced online was the parents and the parents' expectations. All of a sudden, we've got parents who are now think they are teachers, and they know what is best for the children from an education's standpoint… they try to be the mom and dad at home, and they are trying to be the teacher and they try to be the friend because the child has lost*

out on that social aspect. So, we found they was lots of pressure that came from the parents based on their expectations." [Participant 2]

Lastly, the interview indicated that remote learning would require a social programme for it to prosper as it would allow learners to also have social interaction. Furthermore, remote learning may affect maturity level for younger learners as compared to classroom learning, alluded the participant.

"*If you were to implement remote learning for whatever reason it would have to work hand in hand with some kind of social programme were the children would still be engaging with their peers and teachers in-person, because that something were they really struggled. As a consequence, for this year, we are seeing that the maturity levels of the children are not where it normally is at this point in the year, like my grade 4s now that I have started are still behaving more like grade 3s, they haven't gone through that full maturity process."* [Participant 2]

The findings highlight a wide range of different challenges which can be experienced during remote learning. Such challenges vary due to different schools, the level of pedagogical approach and how informed the teachers and learners are with regard to remote teaching. However, there seems to be common challenges experience across the board. One of the major challenges is the ability to monitor learners' participation during remote learning. Online fatigue can result in the learner not concentrating or being distracted from the lesson during online learning. Lack of social and personal interaction is also a major challenge as this can result in social anxiety. The findings indicate that physical interaction is important for learning environment. The home environment also plays a major role as it can be unstructured as compared to a classroom environment, which can easily be controlled to enable learning.

Hobbs and Hawkins (2020) indicates that one of the major issue with remote learning is the ability to fairly assess students. Another issue highlighted by Hobbs and Hawkins (2020) is cheating. It is hard to validate and authenticate that the work submitted by the students online was completed by the students without outside assistance. Checking the attendance of learners has also proven to be challenging, as parents might

need to verify that the child is attending the class sessions or by checking the work the child completed.

In similar finding Ferri, Grifoni and Guzzo (2020) also found that social challenges including lack of suitable home environment dedicated for learning can have a negetive impact on remote learning. The study revealed that lack of human interaction among the teachers and students is a major limitations for remote learning. The frequent involvement of parents can also be an issue as for some parents the workload together with supporting children during online was nearly impossible to handle (Ferri et al., 2020, p. 11). Teachers struggled adoptation of new approaches to ensure learners are participanting for londer periods of time online while constantly paying attention, highlighted Ferri et al. (2020). The ubrupt move to remote learning had an impact on both teachers and learners as new pedagogical approaches needed to be adapted with unforseen difficulties such as internet access, interogating new platforms, teaching and assessment techniques, including equity and access issues (Serhan, 2020, p. 340).

4.4.3 What are the key improvements which could be done in remote learning?

This interview question was posed to the participants in an effort to understand based on their experience of operating within the remote learning environment, on what are the key improvements which needs to be done, to ensure that remote learning can be implemented successfully. Participants seems to have a common view that there are more improvements which can be done with regard to remote learning, and most of this was due to the fact that, schools were not ready and did not have a clear guided policy on working with a remote learning environment for both teachers and learners.

The following themes were picked up when answering this interview question: declaration form to authentic learners' work, authenticity of assessment, video always on policy, improvements for remote learning, require considerable amount of time to plan, requires buy-in from all the stakeholders involved, having an empathetic mindset, being persistent and optimistic despite the challenges. Other themes include thorough research and development, impracticality of having individual sessions with learners, culture and mentally shift to embrace remote learning.

One participant indicated that assessments need to be improved and there has to be a way to authenticate the work done by learners as some may be assisted. The participant highlighted that during remote learning, some of the learners' marks increased and they were believe that these learners might have received assistance when taking the assessments. When asked what are the key improvements which could be done in remote learning, the participant mentioned that:

"… one of them could be assessments. How the assessments are being done, how they are being taken. To us the assessments were sometimes hard to ensure if it's the child's own authentic work. If they didn't have all their books around them and wrote the test like that. So, with that, some of the students' marks actually increased and we did not have anything in place to stop that. We sent out a letter saying that they must sign it and they must that it is their own work, but I mean how can you trust that as far as it goes. And then the assessment tools and how assessment are being taken. I think the big thing is that I think the students, and I don't know how you would correct this but some of the students are very shy, and they don't want to turn on their cameras but they will have to have video open up the whole time or somehow so you can just see that the person is there." [Participant 3]

Another participant indicated that time and mindset is important to improving the remote learning experience. The participant highlighted that remote learning requires proper planning and a "buy-in from staffing". The teachers and staff need to be prepared with the correct mindset when implementing remote learning. Budget constraints from the school can also hinder the successful implementation of remote learning. Furthermore, the participant indicated that a sense of community is required from all the stakeholders and that remote learning requires continuous learning and improvements. Schools can also be more empathetic towards parents and learners in understanding the different socio-economic conditions of remote learning.

"A lot more time to prepare which was out of our control. I think if something is done by choice, then you are a lot more prepared to it. You are lot more motivated to do it. There is a lot more buy-in from staffing. Where the staff prepared to do remote learning? No. So all of that went out of the window. However, I mean it's a hard

question because could you do more training? You can always do more training. Can you be more prepared? You can always be. Can you throw more money at it? Possibly, but at the end of the day you can only do what you can, and you are limited by the skills of the management, you are limited by the funds of the organisation, you know that kind of thing. I think you can only prove through with what's in your means other than to say have lots and lots of patience. I think an improvement is very circumstantial but an improvement which is within your control is in your mindset and moving into that empathetic mindset and knowing the ways through your pupils, and their parents and the mindset of, I am going to try to make this work, I am going to try to make the best out of this. Yes, someday we might fail but we are going to move forward together. So, improvement and establishing that mindset and community sense among the people you are working with." [Participant 5]

Furthermore, the participant highlights the importance of research and development to be invested by the school management before taking a decision to implement remote learning. This would enable the school to choose the best tools for remote learning while looking for cost effect strategies to better implement this means of delivering education as opposed for "sink or swim" mode, indicated the participant.

"I think if you are making a decision to do remote learning, because you want to as the management, you do research and investigation into what are the best devices which we can use, where is the best cost-effective case to buy them, which is the best online platform to use and lets test is against others and let's ask. When you are not blessed with the luxury of being prepared to make that decision of remote learning and you are just doing it in a sink or swim kind of mode, you make it [work] with what you have." [Participant 5]

When asked, what are the key improvements which could be done in remote learning, one participant indicated the impracticality of having one-on-one sessions which every learning during remote learning. The respondent highlighted that it was advantageous to pick up if a learner is having an issue and have one-on-one session with that learner however, it was "almost impossible to have one-on-one with every learner".
"Obviously there is what you would love to do versus what you can pull off in reality. I think it was really effective when we found that a child had an issue but then you

could have a one-on-one zoom lesson with them. Because you could actually really engage with that one child to see what they understood and what their misconceptions were, but it is impractically almost impossible to have one on ones with every learner." [Participant 3]

Furthermore, the participant highlighted that based on the timetable the school had, learners spent some time online however, they were a time during the day were learners needed to work offline which was problematic as they did not have any assistance from the teacher during that time.

"Last year when we had the official lockdown and they were online for the first time, we ran a very basic online timetable where they were actually online during the day, it worked out to about an hour and a half of online lessons and the rest of the time they were doing work online but by themselves. That was very problematic because they were completing work unassisted or independently when online kind of require constant guidance [which] was problematic" [Participant 3]

Another participant indicated that remote learning requires a culture in order for it to succeed. The respondent highlighted that the community needs to see remote learning as an alternative to traditional classroom learning as opposed to a response to keep the lights on. Culture and mental mindset are crucial elements to improving the successful implementation of remote learning in education as indicated by the respondent.

"For remote learning to work I think there should be a culture. There needs to be a culture where learners see it not just as a response to Covid or a response to pandemic or a response to something, but they see it as an alternative to a traditional classroom and the parents also understand what remote learning is and what is required. So, there must be a culture that will shift the mindset that you can be at home or wherever and learn. I think that cultural mental shift would make it more efficient rather than having all the interactives I speak of or rather than having great teachers or having the devices. We must remember that remote learning is not limited to just the digital and technological space. You can have remote learning with your books and so forth. So, I think that cultural and mental mindset is very important if we are to have a system that would work efficiently as having kids in the classroom" [Participant 6]

The findings indicate improvement are circumstantial and the schools can only so do much in terms of skill improvement. However, they also highlight the need to improve converting the current curriculum to meet online demand. Assessment can also be improved to ensure that the learners are doing their own work and getting the best out of the experience. Culture of inheriting the remote learning and the mindset seems to stand out within the findings. There notion of having the correct mental shift in adopting remote learning for both teachers, parents and learners seems to be a major improvement which can be done for better experience. There has to be a sense of community from all parties involved. The ability for teachers to be aware when learners are struggling or having an issue and proactively assist, is another improvement highlighted by the participants.

This findings can be supported by the literature review from Flack, Walker, Bickerstaff and Margetts (2020) recomending that policy makers needs to address the basic needs families and marginalised comminities in improving the readniss for remote and online teaching. Furthermore, Flack et al. (2020) elaborated that remote and online learning requires a collective solutions in which community stakeholders including teachers, families, students and communicaty leaders are continually enaging with policy makers and educational leaders to thrive to improve on this process. Rahiem (2020) indicated that innovative approaches are required to deal in the rapid transformation which has exposed inconsistancies and weakenesses of how remote learning learning has been implemented.

Cramp, Medlin, Lake and Sharp (2019) hilighited the importance of improved academic integrity and advanced pedagogical approaches through online examininations and the needs to improve student learning outcomes in the online setting as opposed to traditional face-to-face classroom based. Vollbrecht, Porter-Stransky and Lackey-Cornelison (2020) recommended a contigency plan which can help improve both the experience and pedagogical approaches to remote learning. These includes incorporating more real-time assessments into learning events, increasing faculty-to-students ratio, providing more application-based experience during real-time class sessions and events, and ensuring a consitance work-life balance during remote and online sessions. Many studies still recognises upskilling as a major factor to remote learning. Lack of digital skills is still a major concern among teachers

as this affect their confidence and can also create insecurities during remote and online learning affecting the padagogical outcomes (Alamo et al., 2021).

In determining the challenges and opportunities faced by medical schools in implementing remote learning and teaching, it was found that lack of hand-on training can seriously impact students affecting both their curriculum and future skills within the field (Gaur1, et al., 2020). However, innovative approaches and forward thinking of using remote learning which can suitably be integrated into the curriculum can be a huge imrpovement within this field, explained Gaur1 (2020). Guar1 (2020) indicates that using both the face-to-face and remote learning can be effective in meeting the pedagogial requirements as this hybrid can help in developing practical experience.

4.5 Conclusion

The findings of the study indicated indicate common problems faced by the different participants who contributed to the study. The findings highlighted lack of formal policy which informed the implementation of remote learning. This seems to be due to an abrupt move to remote learning due to the pressures of remote learning. The findings furthermore indicated that the lack of policy resulted in technical challenges due to upskilling teachers with technological pedagogy. In some instances, the findings highlighted lack of adequate equipment including connectivity issues for both learners and teachers. However, it seemed that with time and experience, the remote learning policy was updated, and remote learning seemed to be effective due to the agility of schools adapting quickly. The findings also indicated how open communication between teachers, learners and parents seemed to assist in improving the remote learning experience for all the parties involved.

5 DISCUSSION OF RESEARCH FINDINGS

5.1 Introduction

This chapter unpacks and discusses the findings in relation to the common themes found during the qualitative thematic analysis. The chapter will discuss in detail the results of the study. The findings will be discussed in detail and linked with similar and opposing literature in order to deduce validate the results of this study. This chapter links the research question and findings to draw a conclusion which answers the research question in relation to the research topic.

5.2 How does policy implementation hinder the successful pedagogical integration of ICT in schools?

Lack of adequate or formal policy can result in a digital divide gap. Policy makers needs to become agile and continuously update remote learning policy as they navigate the remote learning process. Continuous communication amongst all stakeholders is key to ensure that the policy is continuously updated in an effort to not hinder the remote learning process. Unisef (2020) also highlighted the importance of bridging the gap of digital divide through the implementation of comprehensive policy for remote learning. Furthermore, the study indicated that within the Southern African region, radio-based education had more reach than the internet-based learning. This was evident within the findings, as there were no formal or lack of policy during the Covid-19 pandemic when most private schools implemented remote learning. A deliberate policy which also considers the socio-economic factors, psychological factors and social aspects is critical in ensuring a successful transition to remote learning. A study conducted by, International Journal of Multicultural and Multireligious Understanding, indicates how policy implementation by the government contributed to a successful and smooth transition to remote learning (Milla, et al., 2021). The policy included psychological distancing and social barriers which contributes immensely to aspects of life and considering lockdown.

Policy makers needs to ensure the policy outlines the upskilling of teachers or educators as remote learning requires extra effort with regard to the technology used

in the learning process. Additional effort may also be considered to ensure that the curriculum is aligned with online learning programmes. The policy needs to consider the guidelines of learning from home. Habibu et al. (2020) highlights the importance of training and development as this can hinder the successful implementation of remote learning. Lack of training in the technology used to deliver learning online for teachers or educators can result in resistance to change and lack of confidence. Furthermore, adequate training can address the pedagogical issues faced by teachers with regard to the technology used for teaching online. Mathevula and Uwizeyimana (2014) also indicated how teachers' confidence level is affected by lack of training. Adequate training and upskilling of teachers in using the correct ICT tools has a direct impact on the communication and productivity on remote teaching. It is important for the policy to address the upskilling and how ICT integration would have an impact in teaching and learning for both learners and teachers. The policy needs to comprehensively outline the key competencies required for teachers and learners with regard to remote learning.

A comprehensive policy needs to outline the guidelines to cater for any contingency plans for remote learning. South Africa faces a continuous issue with regards to load shedding (power cuts) and high data cost. Having the ability to record lesson which can be accessible at a later stage gives an advantage for missing any lessons due to unforeseen circumstances. Having this as one of the contingency plan, can also add an advantage when learners are doing a revision for a particular lesson. The approach of a hybrid model which caters for both remote and face-to-face learning seems to be a good approach for schools adopting remote or online learning. It is important to have strategic action plans and develop a formalised and innovative contingency plans for emergencies during remote learning. Detailing and formalising a contingency plan policy can help in mitigating any unforeseen challenges which may affect the experience of remote learning.

The findings indicate that social interaction and anxiety levels can hinder the quality of education within a remote learning environment. A major contributor in enabling remote learning is attitude. The policy needs to address the importance of social interaction in order to retain the quality and positive attitude towards remote learning. Considering a hybrid model of using both face-to-face interaction and remote learning

can help in addressing the social anxiety faced during remote learning. Barbar (2022) indicates that social presence in online learning can have a positive impact. Furthermore, Barbar (2022) highlights the importance of having formalised strategies within the policy to address the social interaction to improve the effectiveness of online learning. Having social interactions can have a positive impact on remote learning and improve the pedagogical approaches in an effort to not compromise remote and online learning.

5.3 How did private schools implement ICT for remote learning to respond to the Covid-19?

Schools had an abrupt move to online and remote learning as a result of the pandemic. Communication played a major factor between teachers, parents and learners to ensure a successful move to remote learning. The schools capitalised on continuous feedback through different means of communication including surveys to ensure they improve on the remote learning experience. Blignaut et al. (2010) indicates that lack of prioritisation in integrating ICT to pedagogical practises can have an impact on successful implementation of remote learning. It is important for schools to have a comprehensive policy which will outline how the integration of ICT to remote learning will be implemented. Continuous feedback is also important for schools to get the experience of stakeholders involved in an effort to improve on their expectations.

In order to ensure that the policy is working or not, open communication and continuous monitoring and feedback is necessary. It is important for the schools to become agile and continuously update the policies as they learn how to navigate the remote learning environment. Remote learning is not a one size fits all, however there are common challenges which can be addressed to enhance the online learning experience. Sposato (2021) found that it is important for teachers to have continuity and become flexible towards teaching pedagogy. Personal routines and communicating with colleagues through meeting can help maintain a positive frame of mind. Furthermore, this can create alignment through sharing and adapting to quality standards. Both the school and teachers need to continuously improve on the pedagogical approach to online environment. Teachers needs to continuously upskill

and get the correct technological support for both tools and curriculum for online teaching. Badiozaman et al. (2022) found that teaches have a genuine interest in the adoption of remote learning however, investment for upskilling is important. The correct platforms are also necessary for the success of remote learning to fit into the technology environment.

It was evident from the findings that there was limited knowledge from teachers with regard to the pedagogy for remote and online teaching. Limited digital experience on the tools required for remote learning also has an impact on a successful implementation of using ICT to deliver education. With different tools used for remote learning, Microsoft Teams, Zoom and Google classroom were the most common tools used. Habibu et al. (2012) found that lack of adequate training in the tools used for remote learning can negatively impact the successful implementation of remote teaching and learning. Mathevula and Uwizeyimana (2014) also agrees with this notion. Schools needs to consider the age group when implementing remote learning as the younger generation can tend to require more assistance online than the older generation. In the same notion, even though the younger generation of teachers can be more technologically savvy than the older generation, upskilling on the tools is required. Training on how to use the tools necessary for remote learning and teaching is important to everyone involved including learners, teachers and parents. McAleavy and Gorgen (2020) also support this by highlighting the struggle which teachers face with regard to digital skills. Furthermore, McAleavy and Gorgen (2020) indicate the need for strategies required to build a strong virtual presence between teachers and learners.

The findings of this research indicate the importance of keeping the learners engaged through maintaining personal connection. Various methods were used to ensure that learners maintain connectedness and are engaged during online learning. Due to remote learning, learners can feel isolated and lonely resulting in a withdrawal from engaging with the lessons. It is important for teachers to keep learners engaged through innovative methods to ensure a good online experience. Hehir, Zeller, Luckhurst and Chandler (2021) supports this by identifying five key themes to build connectedness within an online learning environment. Usability, teacher interaction, immediacy, synchronicity and community have been identified as key themes for teachers to assist

in fostering personal connection with the learners. Teachers needs to acknowledge the social and psychological distance and identify innovative way to help keep learners engaged and foster personal connection.

5.4 Are there challenges which private schools faced in using ICT for remote learning?

Remote learning seems to be effective to an extend however it cannot be compared to face-to-face learning as indicated by the findings. In similar findings by Unicef (2020), the report indicates the needs for households to have a dedicated environment and necessary assets for effective online learning. Furthermore, the report indicates the improvement which can be made to improve the quality of online learning. Hobbs and Hawkins (2020) also support the notion that the younger generation requires from parents, which adds as one of the challenges to effectively implement remote learning across all age groups. Remote learning seems to be effective as an alternative to face-to-face learning. It can be used as a secondary method to deliver education; however, it has not reached its maturity level. The lack of social interaction and social anxiety has an impact of how effective remote learning can be. WassnaaAl-Mawee, MorganKwayu and TasnimGharaibeh (2021) also support this as their findings indicates a negative experience for remote learning due to social interaction. However, the flexibility which comes with remote learning seems to be a positive experience

There are various challenges and issues faced during online and remote learning. This can be classified into psychological challenges, technical challenges and social challenges. Technical challenges include lack of training, the ability to digitalise the pedagogy for effective remote learning and online fatigue. Lack of social and personal interaction together with social anxiety are some of the social and psychological challenges experienced. The integration of using ICT into the pedagogical practices is one of the major challenges for remote learning. Habibu et al. (2020) highlights the important of integrating technology into learning practices to be able to successfully implement remote learning. Remote learning has different challenges and require policy makers to address in detail these challenges in order for it to be effective. It is not a one size fit all and it also requires a level of maturity. The lack of physical

interaction has a direct impact on the learners' social and psychological barriers. Remote learning is effective however to address some of the challenges, a combination of both remote learning and face-to-face learning would be ideally effective. Dorn, Probst, Sarakatsannis and Panier (2020) emphasis on the use of a hybrid model by combining classroom face to face learning together with remote learning due to the lessons learned during the COVID pandemic.

Innovative methods need to be applied in order for remote learning to be effective. The importance of considering the learners demographics and a dedicated learning environment for remote learning can result in innovative and appropriate methods for policy makers. Mathevula and Uwizeyimana (2014) highlighted the importance of policy makers to address the inequalities and furthermore have a comprehensive policy for digital learning. The importance of addressing the mental health of the learners' is also important due to isolation during remote learning. Bashir, Bashir, Rana, Lambert and Vernallis (2021) also support how mental health is important and how digital and social inequality may intensify during remote learning. Policy makers needs to consider and improve on these.

5.5 Conclusion

The findings indicated there was lack of comprehensive policies during the adoption of remote learning as a response to the pandemic. Furthermore, some schools did not receive adequate training during the move to remote learning and relied on their classroom face-to-face strategies to teach remotely online. However, the findings also highlighted that due to open communication, remote learning became easier as they understood with experience and communication, the challenges which needed to be addressed. Agility in responding to the challenges and adjusting the policy seemed to be effective to enable an effective remote learning over time. The learners however experienced online fatigue during the remote learning. This resulted in social and psychological challenges as there was lack of social interaction.

6 SUMMARY, CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

6.1 Research process and content summary

6.1.1 Conceptualisation

The Covid-19 pandemic resulted in lockdown which disrupted normal life as we know it, including the closure of all schools across the world. In mitigating the disruption of the curriculum, various schools implemented online and remote learning to keep continuity of the academic year. Due to different resources and lack of digital pedagogy policy and digital maturity, there were various challenges when implementing the remote learning. Remote learning became a primary alternative for schools to continue with the academic year during lockdown. This study helps fill in the knowledge gaps on how private school swiftly adopted remote learning. Understanding the advantages and challenges faced by private schools in successfully moving to remote learning, can help policy makers in reducing the digital divide for online pedagogy.

Research questions to understand the impact policy of pedagogical integration of remote learning in schools were formulated. Questions to understand how private school implemented remote learning and the challenges they faced were developed. The associated propositions to assist in addressing these questions were formulated.

6.1.2 Conceptual Framework

The conceptual framework considers the policy as an independent variable which interrelates to infrastructure and training and development as the dependent variables. This study investigates the attitude and skills set of teachers and schools' ICT staff which forms part of the moderator variables. Furthermore, the confidence level of these moderator variables is also considered in relation to remote teaching and how they relate to both infrastructure and training and development as dependent variables. The attitude and behaviour of both learners and parents also forms part of the conceptual framework. This study investigates all these variables and how they are influenced by the independent variable, which is the policy, in this case.

6.1.3 Methodology

A qualitative approach was used to gather the thoughts of the participants in an effort to understand how ICT was successfully integrated into the pedagogy to enable remote learning. This approach enabled to gather valuable insight through conversations allowing participants to freely express their feelings and experience with an honest view of the process. A case research design was used in the study to focus on how remote learning was successfully implemented by private schools during the pandemic's lockdown regulation. A purposive sampling was used with five private schools within Gauteng used for the study

Information collection was done in the form of interviews which were conducted both online using Microsoft Teams and face-to-face interviews. The information was analysed using a qualitative thematic analysis which generated common themes grouped together. This enabled to generate common patterns which provided insight of the findings among the participants. Furthermore, open dialog of the qualitative research allowed to establish authenticity, quality and truthfulness which were key to ensuring the reliability of the study.

6.1.4 Empirical research results

During the implementation of remote learning as a result of the pandemic within the South African private schools, the results indicate lack of a formal policy. However, in some cases there was a partial policy or a set of guidelines to implement remote learning. Technical challenges and pedagogy challenges of digitalising the curriculum were experienced. Upskilling of teacher in using the correct platforms was also highlighted to be a challenge. Teachers, learners and parents were overwhelmed due to social anxiety and online fatique during remote learning. Lack of social interaction was found to be a big factor which was not addressed by the policy.

Due to agility and continuous learning, private schools become proactive in countinously updating the policy and learning from experience as they improve on the process. Contigency plans were also put in place such as recording the lessons and uploading it to a learning portal to be accessible at a later time. Some private schools opted to use a hybrid approach of using remote learning as an alternative, and when

the lockdown regulation got eased up, they went back to classroom teaching. The parents also took some burden as they continously had to ensure learners are accountable to remote learning and schools did not make efforts to ensure parents are digitally skilled. Communication was a big factor as continuous and informal feedback was a key contributor to improving on the policy while navigating to the new norm of remote learning.

The results also indicated that various methods were adopted to monitor and evaluate that remote learning policy is working. Teachers encouraged an always camera-on policy to ensure continuous communication with students to maintain rapport. Additional lessons and one-on-one session were offered to ensure learners who might be struggling get assistance. Furthermore, remote learning required extra effort and the personality of teachers to identify any emotional or social issues from learners, which seemed to add more pressure for them. The participant indicated that remote learning required a level of maturity and it seemed to work better for the older group rather than the younger group of learners. The results indicated that remote learning was effective with time due to experience and learnings, as update to the policy are agile.

6.1.5 Discussion of research findings

In answering the three main research question, there were several themes which came out of the findings. The policy needs to be comprehensive enough and deliberate in outlining socio-economic factors, psychological factors and social aspects. The needs for continuing and becoming agile in updating the policy due to the external changing environment is vital to the successful implementation of remote learning into the education system. The findings also indicate and emphasises on upskilling of teachers on the technology to have key competencies for remote learning. Open communication among teachers, parents and learners seems to be a key contributor to ensure policy makers keeps remote learning relevant as they tackle challenges which may arise as a result.

6.2 Conclusions

6.2.1 Contribution to knowledge

Principals and school leaders did not prioritise using technology in teaching and learning. A study conducted by Blignaut et al. (2010) found that there was lack of ICT integration in schools due to prioritisation issues. Furthermore, Habibu et al. (2012) conducted a study which focused on teacher and institutional level problems, looking at factors that limited the use of ICT for teaching and learning. Lack of training and proper usage of the technologies for pedagogical approach was found to be some of the challenges for teachers. The teachers lacked appropriate skills, confidence and knowledge of integrating ICT into the pedagogical practices. Teachers needs to have the desire and adequate training to use ICT for teaching. In similar findings, Mathevula and Uwizeyimana (2014) lack of comprehensive policies and inadequate training had an impact on teachers' confidence level and their ability to use ICT tool for online and remote learning. Unicef (2020) also indicated due to digital divide, there is less reach internet-based learning within the Southern Africa. The study also indicates the needs for remote learning policies to be reviewed particularly in relation to remote learning quality and monitoring measures.

The findings of this study indicated the importance of a comprehensive policy. The policy needs to address common challenges faced in remote learning, and also there has to be a need to continuously update the policy due to the learnings and experiences. The results also indicated the impact of upskilling of teachers and integration of technology into the pedagogy to successfully use ICT in teaching and learning. The results found with evidence how open communication is important to improve on the remote learning implementation. Furthermore, there was evidence of social and psychological impact on learners due to isolation of remote learning. The ability to monitor and evaluate whether remote learning is working or not, is crucial as there can be agility in dealing with the challenges. The implementation of remote learning requires adequate resource and capabilities together with a comprehensive policy to guide the process. Agility and continuous policies seem to be key factors to quickly adjust and adopt to the fast-changing environment. Remote learning seems to be effective with time however it is still being viewed as an alternative approach rather than a primary approach for pedagogical practices.

6.2.2 Comparison of results to other similar findings

Gaur, et al. (2020) found that remote learning was successful for the preclinical phase of medical curricula. However, due to lack of hands-on practical training, students may struggle later in clinical years. This finding can be compared to the results of this study as it recommends the use of a hybrid model, using both remote learning and face-to-face classroom. A study by Wang and Ren (2020) also highlighted the challenges to moving to remote learning due to the Covid-19 pandemic. The findings found that improvements are required relating to the pedagogy of remote teaching. Furthermore, the findings conducted by Wang and Ren (2020) agrees with the results of this study. Most students agreed that online learning was not as effective as face-to-face learning. Trust and Whalen (2020) investigated if teachers should be trained in emergency remote teaching as a results of Covid-19 pandemic. Comparably to this study, Trust and Whalen (2020) found that teachers were learning remote teaching strategies and the tools while teaching during remote learning. There findings suggests that there was no training or upskilling of teaching in integrating technology to the pedagogy.

6.3 Limitations

The limitations of the study relate mainly to the sample size that was used. The sample included only private schools within the Gauteng province, which is one province out of the nine South African provinces. Another limitation was related to getting private schools onboard for conducting the study, as they were dealing with changing lockdown regulations and also dealing with the challenges of implementing remote learning. The interviews, however, were conduction without bias and ensuring that participants are comfortable and providing responses without any persuasion. Lack of literature review was also another limitation as the study was conducted under a pandemic, with little experience on how to respond to the situation. Another limitation is that the study focused on the implementation of remote learning as a response to the pandemic.

6.4 Recommendations

6.4.1 Policy implications

In order to integrate ICT for remote learning within schools, there is a huge implication on the policy. The policy makers need to ensure that a comprehensive

policy is drafted to highlight all the stages and address the challenges of implementing remote learning. The policy needs to include a step-by-step model on how remote learning will be implemented. One of the key implication to policy is ensuring that the curriculum is digitalised for online learning. The policy makers need to also address the socio-economic condition, which may affect different households, in relation to a dedicated learning environment. The study highlighted a huge gap which is lack of comprehensive policy. The policy needs to address the inequalities and provide a good model, which can also be adopted by the public schools. Upskilling is also a major key which affects the policy not only for teachers, but for parents and learners as well. Policy needs to ensure there is a community for online and remote learning. There should be guidelines which include support for psychological issues and address social aspects of the learners and teachers. The policy makers need to consider the implementation of a hybrid model as remote learning may not be relevant for some of the subjects that may require practical experimentations.

6.4.2 Implications to practitioners

The results of this study indicate that even with all the technical resources, remote learning requires a buy-in from the community involved and the correct mindset to see it succeed. For practitioners who want to implement remote learning, there needs to be a step-by-step process or model to implement remote learning. A formulated strategy is required to identify the resources and capabilities of implementing remote learning. In relation to the comprehensive policy, the school might need to identify its organisational capacity while considering a framework which will identify the advantages and disadvantages of remote learning. It would be recommended to implement remote learning as an alternative while using a hybrid approach with face-to-face classroom teaching and online remote learning. It is important to note that the findings of this study resulted as a response to the Covid-19 pandemic, resulting in remote learning being implemented under unfavourable conditions.

6.5 Future research

This study focused on the implementation and adoption of information and communication technologies for remote learning within South African private schools. The focus was mainly the implementation of remote learning as a response to the Covid-19 pandemic. Future research should look into the social aspects and

psychological impact of remote learning on learners. In addition, a research focusing on whether teachers replicate face-to-face teaching strategies within an online and remote learning is necessary. It is important to understand the quality impact of teaching between upskilled teachers and unskilled teachers with regard to digital pedagogy. Furthermore, future research should indicate whether remote learning should be used as an alternative to primary education, or there is a space for hybrid model within the 4IR era.

REFERENCES

Abdel-Aziz, A. A., Abdel-Salam, H., & El-Sayad, Z. (2016, March). The role of ICTs in creating the new social public place of the digital era. *Alexandria Engineering Journal, Vol 55*(1), 487-493. Retrieved from https://doi.org/10.1016/j.aej.2015.12.019

Amnesty International. (2020, February 11). *Africa, Broken and Unequal: The state of education in South.* Amnesty International. Retrieved from https://www.amnesty.org/en/documents/afr53/1705/2020/en/

Anderson, B., & Simpson, M. (2012). History and heritage in distance education. *Journal of Open, Flexible, and Distance Learning, Vol 16*(2), 1-10.

Anthony, L. (2020, April 01). SA schools proactive about learning during lockdown. *Review Online*. Retrieved from https://reviewonline.co.za/398257/sa-schools-proactive-learning-lockdown/

Aoki, K. (2010). The Use of ICT and e-Learning in Higher Education in Japan. *International Journal of Educational and Pedagogical Sciences, Vol 4*(6), 1-5.

Avanesian, G., Mizunoya, S., & Amaro, D. (2021). How many students could continue learning during COVID-19-caused school closures? Introducing a new reachability indicator for measuring equity of remote learning. *International Journal of Educational Development(84),* 1 - 8. Retrieved from www.elsevier.com/locate/ijedudev

Azubuike, O. B., Adegboye, O., & Quadri, H. (2021). Who gets to learn in a pandemic? Exploring the digital divide in remote learning during the COVID-19 pandemic in Nigeria. *International Journal of Educational Research Open, Vol 2(2)*, 1 - 10. doi:https://doi.org/10.1016/j.ijedro.2020.100022

Baber, H. (2022). Social interaction and effectiveness of the online learning – A moderating role of maintaining social distance during the pandemic COVID-

19. *Asian Education and Development Studies, Vol. 11*(1), 159-171. Retrieve from https://doi.org/10.1108/AEDS-09-2020-0209

Badiozaman, I. F., Leong, H. J., & Wong, W. (2020). Embracing educational disruption: a case study in making the shift to a remote learning environment. *Journal of Applied Research in Higher Education*, 1 - 15. Retrived from 10.1108/JARHE-08-2020-0256/full/html

Badiozaman, I. F., Leong, H. J., & Wong, W. (2022). Embracing educational disruption: a case study in making the shift to a remote learning environment. *Journal of Applied Research in Higher Education, Vol. 14*(1), 1 - 15. Retrieved from https://doi.org/10.1108/JARHE-08-2020-0256

Barrett, D., & Twycross, A. (2018, July). Data collection in qualitative research. *Evid Based Nurs, 21*(3). Retrieved from http://dx.doi.org/10.1136/eb-2018-102939

Bashir, A., Bashir, S., Rana, K., Lambert, P., & Vernallis, A. (2021). Post-COVID-19 Adaptations; the Shifts Towards Online Learning, Hybrid Course Delivery and the Implications for Biosciences Courses in the Higher Education Setting. *Frontiers in Education*. Retrieved from https://doi.org/10.3389/feduc.2021.711619

Blignaut, A. S., Hinostroza, J. E., Els, C. J., & Brun, M. (2010). ICT in education policy and practice in developing countries: South Africa and Chile compared through SITES 2006. *Computers & Education*, 1552–1563. Retrieved from www.elsevier.com/locate/compedu

Boyatzis, R. E. (1998). Transforming Qualitative Information: Thematic Analysis and Code Development. *SAGE Publications, Inc*.

Braun, V., & Clarke, V. (2012). Research designs: Quantitative, qualitative, neuropsychological, and biological. *APA handbook of research methods in psychology,* 2. American Psychological Association.

Carter Jr, R. A., Rice, M., Yang, S., & Jackson, H. A. (2020). Self-regulated learning in online learning environments: strategies for remote learning. Information and Learning Sciences, *121*(5/6), 321 - 329. Retrieved from 10.1108/ILS-04-2020-0114

Castelli, F. R., & Sarvary, M. A. (2021). Why students do not turn on their video cameras during online classes and an equitable and inclusive plan to encourage them to do so. *Ecology and Evolution* (Vol 11, 3565–3576).

Chhetri, C. (2020). "I Lost Track of Things": Student Experiences of Remote Learning in the Covid-19 Pandemic. New York*: In Proceedings of the 21st Annual Conference on Information Technology Education*. Retrieved from https://doi.org/10.1145/3368308.3415413

Condie, R., & Munro, B. (2007). *The impact of ICT in schools - a landscape review.* University of Strathclyde, Quality in Education Centre. Becta Research.

Dorn, E., Probst, N., Sarakatsannis, J., & Panier, F. (2020). *Back to school: Lessons for effective remote and hybrid learning.* McKinsey & Company.

Eder, R. (2020). The Remoteness of Remote Learning: A Policy Lesson from COVID19. *Journal of Interdisciplinary Studies in Education, 9*(1), 168-171. Retrieved from http://ojed.org/jise

Ferri, F., Grifoni, P., & Guzzo, T. (2020). Online Learning and Emergency Remote Teaching: Opportunities and Challenges in Emergency Situations. *Institute for Research on Population and Social Policies*. Rome: Societies. Retrieved from https://doi.org/10.3390/soc10040086

Flack, C. B., Walker, L., Bickerstaff, A., & Margetts, C. (2020). Socioeconomic Disparities In Australian Schooling During The Covid-19 Pandemic. *Pivot Professional Learning*, 1 - 36, Melbourne, Australia

Frank, J. (2021). Effective Instructonal Strategies, While Using Experiential Learning, to Encourage Student Engagement in a Rural, Distance Learning Setting. *Leadership Education Capstones*, 66. Retrieved from https://openriver.winona.edu/leadershipeducationcapstones/66

Garcia-Vedrenne, A. E., Orland, C., Ballare, K. M., Shapiro, B., & Wayne, R. K. (2020). Ten strategies for a successful transition to remote learning: Lessons learned with a flipped course. *Ecology and Evolution,* 10, 12620 - 12634. Retrieved from 10.1002/ece3.6760

Gaur, U., Majumder, M. A., Sa, B., Sarkar, S., Williams, A., & Singh, K. (2020). Challenges and Opportunities of Preclinical Medical Education: COVID-19 Crisis and Beyond. *SN Comprehensive Clinical Medicine*, 2, 1992–1997.Retrieved by https://doi.org/10.1007/s42399-020-00528-1

Golafshani, N. (2003, December). Understanding Reliability and Validity in Qualitative Research. *The Qualitative Report*, *8*(4), 597-607. Retrieved from http://www.nova.edu/ssss/QR/QR8-4/golafshani.pdf

Habibu, T., Abdullah-Al-Mamun, M., & Clement, C. (2012, September). Difficulties Faced by Teachers in Using ICT in Teaching-Learning at Technical and Higher Educational Institutions of Uganda. *International Journal of Engineering Research & Technology (IJERT), 1*(7), 1-92.

Heale, R., & Twycross, A. (2015, July). Validity and reliability in quantitative studies. *Evid Based Nurs, 18*(3). Retrieved from http://dx.doi.org/10.1136/eb-2015-102129

Hehir, E., Zeller, M., Luckhurst, J., & Chandler, T. (2021). Developing student connectedness under remote learning using digital resources: A systematic review. *Education and Information Technologies* (Vol 26, 6531–6548).

Heitz, C., Laboissiere, M., Sanghvi, S., & Sarakatsannis, J. (2020). Getting the next phase of remote learning right in higher education. *McKensey & Company*. Retrieve from https://www.mckinsey.com/industries/education/our-insights/getting-the-next-phase-of-remote-learning-right-in-higher-education

Hobbs, T. D., & Hawkins, L. (2020). The Results Are In for Remote Learning: It Didn't Work. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/schools-coronavirus-remote-learning-lockdown-tech-11591375078

Isaacs, S. (2007). SURVEY OF ICT AND EDUCATION IN AFRICA: South Africa Country Report. *InfoDev ICT and Education Series*. World Bank, Washington, DC. © World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/10659

Jantjies, M. (2020, October 04). What South Africa's teachers brought to the virtual classroom during COVID-19. Retrieved from

https://theconversation.com/what-south-africas-teachers-brought-to-the-virtual-classroom-during-covid-19-147306

June, A. W. (2020). Did the Scramble to Remote Learning Work? Here's What Higher Ed Thinks. *The Chronicles of Higher Education*. Washington, D.C. Retrieved from https://www.chronicle.com/article/did-the-scramble-to-remote-learning-work-heres-what-higher-ed-thinks

Kelley, E. W. (2020). Reflections on Three Different High School Chemistry Lab Formats during COVID-19 Remote Learning. *Journal of Chemical Education*, 2606 - 2616. Retrieved from https://pubs.acs.org/journal/jceda8

Khalifa, M., & Kwok, R. C.-W. (1999). Remote learning technologies: effectiveness of hypertext and GSS. *Decision Support Systems, 26*, 195–207.

Mashinini, M. J. (2008). Challenges of ICT Policy for Rural Communities: A Case Study from South Africa. *IFIP International Federation for Information Processing*, *282*, 125 - 137

Mathevula, M. D., & Uwizeyimana, D. E. (2014). The Challenges Facing the Integration of ICT in Teaching and Learning Activities in South African Rural Secondary Schools. *Mediterranean Journal of Social Sciences, 5*(20), 1087-1097. Retrieved from https://doi.org/10.5901/mjss.2014.v5n20p1087

McAleavy, T., & Gorgen, K. (2020). What does the research suggest is best practice in pedagogy for remote teaching*? Education Development Trust*. 1-27

McLoughlin, S. (2018). Connecting the dots: Young people, social inclusion and digitalisation. *European Union–Council of Europe youth partnership.* Retrieved from https://www.researchgate.net/publication/329128942_Connecting_the_dots_Young_people_social_inclusion_and_digitalisation_-_reflection_paper

Mdlongwa, T. (2012, August). Information and Communication Technology (ICT) as a Means of Enhancing Education in Schools in South Africa: Challenges, Benefits and Recommendations. *African Institute of South Africa*, *80*, 1-8.

Meyer, I. A., & Gent, P. R. (2016). The Status of ICT in education in South Africa and the way forward. *National Education Collaboration Trust.* 1-48

Mezied, A. A. (2016). What role will education play in the Fourth Industrial Revolution? *World Economic Forum*. Retrieved from https://www.weforum.org/agenda/2016/01/what-role-will-education-play-in-the-fourth-industrial-revolution/

Mhlanga, D., & Moloi, T. (2020). COVID-19 and the Digital Transformation of South Africa? *Education Sciences, 10*, 1-11. Retrieved from https://doi.org/10.3390/educsci10070180

Milla, H., Yusuf, E., Suharmi, S., Zufiyardi, Efendi, R., & Annisa, A. (2021, April). Analysis of the Implementation of Online Learning During Covid-19. *International Journal of Multicultural and Multireligious Understanding, 8*(4), 538-544. Retrived from http://dx.doi.org/10.18415/ijmmu.v8i4.2577

Morgan, H. (2020). Best Practices for Implementing Remote Learning during a Pandemic. *The Clearing House: A journal of Educational Strategies, Issues and Ideas*, *9*3(3), 135-141. Retrieved from https://doi.org/10.1080/00098655.2020.1751480

OECD. (2018). TALIS 2018 Results Teachers and School Leaders as Lifelong Learners. *TALIS - The OECD Teaching and Learning International Survey*. Retrieved from https://www.oecd.org/education/talis-2018-results-volume-i-1d0bc92a-en.htm

Ogbonnaya, U. I., & Awuah, F. K. (2019, May). Quintile Ranking of Schools In South Africa and Leaner's Achievement in Probability. *Statistics Education Research Journal, 1*, 106-119. Retrieved from http://www.stat.auckland.ac.nz/serj

Olsen, C., & George, D. M. (2004). Cross-Sectional Study Design and Data Analysis. *College Entrance Examination Board*, New York. Retrieved from http://cdn.physioblasts.org/f/public/1355667773_1_FT0_4297_module_05.pdf

Rahiem, M. D. (2020). Technological Barriers and Challenges in the Use of ICT during the COVID-19 Emergency Remote Learning. *Universal Journal of*

Educational Research, 8(11B), 6124-6133. Retrieved from https://doi.org/10.13189/ujer.2020.08224810.13189/ujer.2020.082248

Randles, A. (2019). Private Schooling in South Africa - Difference in cost, difference in quality. *Northstar Market Report*. Retrieved from https://www.northstar.co.za/quarterly_report_art/private-schooling-in-south-africa-di%EF%AC%80erence-in-cost-di%EF%AC%80erence-in-quality/

Reich, J. (2020). Remote Learning Guidance from State Education Agencies During the COVID-19 Pandemic: A First Look. *MIT Teaching Systems Lab.*

Republic of South Africa. (2004). White paper on e-Education: transforming learning and teaching through information and communication technologies (ICTs). *Government Gazette*, 26, August. Retrieved from https://www.gov.za/documents/white-paper-e-education-transforming-learning-and-teaching-through-information-and

Rios, B. (2020, June 5). Changes in education as a result of COVID-19 crisis are here to stay, experts say. Retrieved from https://www.euractiv.com/section/economy-jobs/news/changes-in-education-as-a-result-of-covid-19-crisis-are-here-to-stay-experts-say/

Roberts, K. A., & Wilson, R. W. (2002, March). ICT and the Research Process: Issues Around the Compatibility of Technology with Qualitative Data Analysis. *Forum Qualitative Sozialforschung, 3*(2), 1-15.

Sarkar, S. (2012). The Role of Information and Communication Technology (ICT) in Higher Education for the 21st Century. *The Science Probe, 1*(1), 30-40.

Schleicher, A. (2020). The Impact of COVID-19 on Education - Insight from education at a glance 2020. *OECD*. 1-31.

Selwyn, N. (2004). Reconsidering political and popular understandings of the digital divide. *new media & society, 6*(3), 341-362. Retrive from https://doi.org/10.1177/1461444804042519

Serhan, D. (2020). Transitioning from Face-to-Face to Remote Learning: Students' Attitudes and Perceptions of using Zoom during COVID-19 Pandemic.

International Journal of Technology in Education and Science (IJTES), 335-342.

Singh, H. (2003). Building Effective Blended Learning Programs. *Educational Technology, Vol 43*(6), 51 - 54.

Sposato, M. (2021). Remote working in the time of covid-19: developing a web-based community. *International Journal of Web Based Communities, Vol. 17*(1). Retrived from https://doi.org/10.1504/IJWBC.2021.112862

The World Bank Education Global Practice. (2020). *Guidance Note: Remote Learning & COVID-19.* Retrieved from https://www.worldbank.org/en/topic/edutech #covidedtech

Trust, T., & Whalen, J. (2020). Should Teachers be Trained in Emergency Remote? Lessons Learned from the COVID-19 Pandemic. *Jl. of Technology and Teacher Education, 28*(2), 189-199.

UNESCO. (2020). *Education for Sustainable Development Goals: Learning Objectives.* UNESCO. Retrieved from https://unesdoc.unesco.org/ark:/48223/pf0000247444

United Nation. (2020). Policy Brief: Education during COVID-19 and beyond. *United Nation*. 1-26.

United Nations Children's Fund. (2020). Covid-19: Are children able to continue learning during school closures? A global analysis of the potential reach of remote learning policies using data from 100 countries. New York. *UNICEF.*

United Nations Conference on Trade and Development. (2020). *The CoVID-19 Crisis: Accentuating the Need of Bridge Digital Divides.* United Nations.

Vollbrecht, P. J., Porter-Stransky, K. A., & Lackey-Cornelison, W. L. (2020). Lessons learned while creating an effective emergency remote learning environment for students during the COVID-19 pandemic. *Western Michigan University Homer Stryker M.D. School of Medicine, Department of Biomedical Sciences*. Kalamazoo, Michigan: Advances in physiology education. Retrieved from https://doi.org/10.1152/advan.00140.2020

Wang, L.-Q., & Ren, J. (2020). Strategies, Practice and Lessons Learned from Remote Teaching of the General Chemistry Laboratory Course at Brown University. *J. Chem. Educ., 97*, 3002−3006.

WassnaaAl-Mawee, MorganKwayu, K., & TasnimGharaibeh. (2021). Student's perspective on distance learning during COVID-19 pandemic: A case study of Western Michigan University, United States. *International Journal of Educational Research Open*, 1 - 13. Retrieved from https://doi.org/10.1016/j.ijedro.2021.100080

World Bank Group. (2020). EdTech Knowledge Pack on Remote Learning response to COVID 19. *World Bank Group.*

World Bank Group. (2020). Guidance Note: Remote Learning & COVID-19. Washington, D.C.: *The World Bank Education Global Practice*. Retrieved from http://documents.worldbank.org/curated/en/531681585957264427/Guidance-Note-on-Remote-Learning-and-COVID-19

Yusuf, B. N., & Ahmad, J. (2020). A case study of challenges in online learning in a private higher learning institution during the Covid-19 outbreaks. *Advances in Social Sciences Research Journal, 7*(5), 205 - 212. Retrieved from https://doi.org/10.14738/assrj.75.8211

Zhang, D., Zhao, J. L., Zhou, L., & Jr., J. F. (2004). Can e-learning replace classroom learning? *Communications of the ACM, 5*, 75-79.

Appendix A: Research Instrument

Interview Schedule
1. Does the policy detail and support the implementation of remote learning in teaching and learning?
2. Does the policy outline the challenges of learning from home?
3. Does the policy consider upskilling of teachers and learning in using ICT tools?
4. Does the policy outline a contingency plan in relation to remote learning?
5. Does the policy outline the expectation of quality remote learning and how the schools should meet these expectations?
6. What did the school do to ensure that teachers and learners understand the ICT tools used for remote learning?
7. How will schools monitor and evaluate that remote learning is working?
8. How will the school know if the policy implemented is working or not?
9. How will the schools encourage personal connections between the teacher and student?
10. How effective is remote learning?
11. What are the key issues being faced in remote learning?
12. What are the key improvements which could be done in remote learning?

Appendix B: Research Consistency Matrix

Research Question (RQ1 to RQ5	Interview Questions	Key Themes
RQ 1. • Does policy implementation hinder the successful pedagogical integration of ICT in schools?	1. Does the policy detail and support the implementation of remote learning in teaching and learning?	Policy support
	2. Does the policy outline the challenges of learning from home?	Policy approach to challenges
	3. Does the policy consider upskilling of teachers and learning in using ICT tools?	Policy approach to upskilling
	4. Does the policy outline a contingency plan in relation to remote learning?	Policy risk management for remote learning
	5. Does the policy outline the expectation of quality remote learning and how the schools should meet these expectations?	Policy expectations for remote learning
RQ2. • How did private schools implement ICT for remote learning to respond to the Covid-19?	1. How will schools monitor and evaluate that remote learning is working?	Monitoring and evaluation of remote learning
	2. How will the school know if the policy implemented is working or not?	Policy implementation for remote learning
	3. What did the school do to ensure that teachers and learners understand the ICT tools used for remote learning?	Understanding tools for remote learning

	4. How will the schools encourage personal connections between the teacher and student?	Managing lack of personal connection between students and teachers
RQ3. • Are the challenges which private schools faced in using ICT for remote learning?	1. How effective is remote learning?	Effectiveness of remote learning
	2. What are the key issues being faced in remote learning?	Issues arising out of remote learning
	3. What are the key improvements which could be done in remote learning?	Improvements for remote learning

Appendix C: One-page bio of the researcher

Ntlabo Lekoto has more than 11 years' experience as a software engineer and consultant lead with strong backend development skills and the ability to apply best practices in the software development arena. The solid understanding of the business and business requirements, including problem solving skills and client engagement gives me an advantage within the technology space. These coupled with leadership skills enables me to apply my knowledge to implement a range of practical solutions with the utmost efficiency. I have worked in different sectors including banking, investments, telecommunications, finance and credit management, public sector and stock exchange.

Throughout the years Ntlabo has achieved a number of awards from tertiary and within the working sector. Ntlabo was promoted from grade 8 to 10 due to outstanding performance in secondary school. He has won Rookie of the year awards for participating at the Imagine Cup 2008 under software development category. He was part of the credit management team working on the fraud detection system for Telkom Mobile and was also involve in defining the business rules for Telkom Mobile credit vetting during its launch. Through this initiative, Ntlabo received an award for outstanding performance and was also awarded a Group CEO awards by Telkom CEO at the time Sipho Maseko and Sam Phajane, Executive Consumer and retail services. He now works for BBD Software involved with a number of impactful projects within the SARS and Customs space as a consultant.

A family man, a husband, a father, a brother and a friend.

Appendix D: Ethics documentation

Evaluating the implementation and adoption of information and communication technologies for remote learning within South African private schools

Researcher: Ntlabo Lekoto

I, ..., agree to participate in this research project. The research has been explained to me and I understand what my participation will involve. I agree to the following:

(Please circle the relevant options below).

I agree that my participation will remain anonymous	YES	NO
I agree that the researcher may use anonymous quotes in his / her research report	YES	NO
I agree that the interview may be audio recorded	YES	NO
I agree that the information I provide may be used anonymously after this project has ended, for academic purposes by other researchers, subject to their own ethics clearance being obtained.	YES	NO

..... (signature)

..... (name of participant)

..... (date)

..... (signature)

..... (name of person seeking consent)

..... (date)