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FACULTY OF SOCIAL SCIENCES AND HUMANITIES
DEPARTMENT OF SOCIAL WORK

AN ASSESSMENT OF VIRTUAL LEARNING AND COVID-19 IN ZIMBABWE RURAL SCHOOLS: A CASE OF CRAIGIE-LEA SECONDARY SCHOOL IN MUREWA RURAL DISTRICT

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A dissertation submitted to Bindura University of Science Education, Faculty of Social Sciences and Humanities, Department of Social Work, in partial fulfilment of the requirements for the Bachelor of Science Honours Degree in Social Work

APPROVAL FORM

I certify that I supervised **Precious Kanyimo** in carrying out this research titled: **Assessment of Virtual Learning and COVID-19 in Zimbabwe Rural Schools**. A Case study of Craigie-lea Secondary School in Murewa Rural District in partial fulfilment of the requirements of the Bachelor of Science, Honours Degree in Social Work and recommend that it proceeds for examination.

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The departmental board of examiners is satisfied that this dissertation report meets the examination requirements and therefore I recommend to Bindura University of Science Education to accept this research project by Precious Kanyimo titled: **An Assessment of Virtual Learning and COVID-19 in Zimbabwe Rural Schools**. **A Case study of Craigie-lea Secondary School in Murewa Rural District** in partial fulfilment of the Bachelor of Science, Honours Degree in Social work.

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DEDICATION

I would like to dedicate this project to my parents, who through their support made completion of this degree possible. Mum and dad, I will remain grateful forever, may the dear Lord continue to bless you and give you so many years on earth. You occupy a large space in my heart. I also want to dedicate this dissertation to my brothers Emmanuel and Isaac Kanyimo for the financial support during hard times, may God bless you.

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ABSTRACT

The study assessed virtual leaning and COVID-19 at Craigie-lea Secondary School. The major aim of the study was to investigate how virtual learning was done, what is needed for effective implementation of the methods, opportunities and threats to the rural schools in Zimbabwe.The study was underpinned by the Technological… as the theoretical framework. On the research methodology, the study was guided by qualitative research approach and case study research design was employed. The research was targerting 24 learners and 12 teachers including the school head the research use in-depth interview guide and key informant interview guide for the purpose of data collection. A sample size of 19 participants was drawn from the target population and was utilised to collect relevant information to the study. The study employed the the Technological Acceptance Model. Purposive random sampling methods were used to select participants. The study findings revealed that very few teachers and children managed to adopt virtual learning. The findings also revealed that whatsapp and email are the main virtual platforms which were being used during the pandemic. Findings from the study revealed that the main challenges that were faced in ICT application in teaching and learning processes were poor internet connectivity,, unreliable power supply and poor ICT infrastructure. Based on the study findings, it is recommended that teacher should get proper training and development, schools to source more funds to improve infrastructure, install solar system to ensure adequate power supply and engaging different stakeholders to upgrade network system to improve internet connectivity.

ACRONYMS

BEAM	Basic Education Assistance Module
COVID-19	Coronavirus Disease of 2019
CD	Compact Disc
ECOZI	Education Coalition of Zimbabwe
ICT	Information Communication Technology
IT	Information Technology
LCD	Liquid Crystal Display
LCD	Liquid Crystal Display
NFEP	Non Formal Education Policy
ODL	Open Distance Learning
OVC	Orphans and Vulnerable Children
PTCE	Part Time Continuing Education
PDF	Portable Document Format
PU	Perceived Usefulness
PEOU	Perceived ease of Use
SDC	School Developing Commit
TAM	Technology Acceptance Model
UN	United nations
ZABEC	Zimbabwe Adult Basic Education Course

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CHAPTER ONE

1.0 INTRODUCTION

1.0 BACKGROUND TO THE STUDY

Following the outbreak of the COVID-19 pandemic in December 2019, governments across the world were forced to temporarily close schools in order to minimise infections. The Corona virus disease started in China in the province of Wuhan, in September 2019 (SIVIO Institute, 2020). The global outbreak of the acute respiratory syndrome coronavirus had devastating effects on human life (Baldwin & Mauro, 2020). The virus spreads through close contact with infected people and contaminated surfaces (Maphosa, 2021). The virus spread dramatically to other countries culminating to an epidemic. According to the World Health Organisation (2020), coronavirus became a global health concern in January 2020. Since then, COVID-19 daily positive cases and deaths increased dramatically.

According to the SIVIO Institute (2020) by December 2020 the virus had a global mortality rate of 3% and Zimbabwe had rate which was slightly higher at 3.1%. As of 10 December 2021 the World has recorded 267 865 289 confirmed cases of COVID 19 including 5 285 888 deaths (WHO, 2021). The Zimbabwean health officials announced the country's first COVID case in March 2020 (SIVIO Institute, 2020). Zimbabwe has been suffering from a dramatic increase of daily-confirmed cases. As of 10 December 2021 Zimbabwe from 3 January 2020 to 10 December 2021 confirmed 155 817 positive cases and 4723 COVID-19 related deaths (WHO, 2021).

Controlling this highly infectious virus has been the main objective of several governments worldwide. This has been done through imposing lockdowns, enforcing social distancing and practice of good hygiene as recommended by (WHO, 2020). The result was a fiasco to the global activities and this is buttressed by (Soni, 2020) when he suggests that, the implementation of lockdowns and social distancing has resulted in complete paralysis of global activities. Education is one of the sectors which suffered the consequences of the lockdown. Mukute, Francis,Bunt & Scuza (2020) posit that, COVID-19 has disrupted socio-economic activities including formal and non-formal education across the world.

The corona virus phenomenon has negatively affected Zimbabwe's education system nation- wide. More than 1 billion and 575 million students in approximately 188 countries around the world are reported to have been affected by the closure of schools and universities due to preventive measures taken by countries against the spread of COVID-19 (UNESCO, 2020a). According to Save the Children (2020) in Africa 262.5 million pre-primary and secondary school children, about 21.5% of the continent`s population were out of school due to COVID-19 related school closures (Mukute, Francis,Bunt and Scuza,2020). The spread of COVID-19 has also caused fear, anxiety and other concerns to citizens in different parts of the world, including groups engaged in the educational process, such as learners, teachers and parents (NCIRD, 2020).

Furthermore, INEE and UN Zimbabwe (2020) concurs with the view that the pandemic has affected students' rights to quality, safe and inclusive education and social engagement with peers and educators . In Africa, COVID-19's most consequential impacts on education have been identified as the widening of inequalities, increase in marginalisation, and the inability of the most disadvantaged students to pursue their studies and acquire knowledge and skills that support a healthy transition to adulthood (UN, UNDP, UNESCO & IESALC, 2020). The most affected students include those whose foundational learning was not strong: girls and youth with disabilities, and refugee, migrant and displaced children (Save the Children, 2020).

As a result of the above mentioned effects of COVID-19 WHO came up with standards which were to be met if the country was to re-open schools. These included COVID-19 testing kits, sanitizers, masks, adequate infrastructure to ensure physical social distancing. These measures were difficult to implement in Zimbabwe where some schools were being used as quarantine centres and again the country was not fully equipped to procure the suggested requisites . The Progressive Teachers Union of Zimbabwe was quoted by Matimirime (2020) saying that, the government which had struggled to test 40-000 people over past 2 months had no capacity to test 4.6million students, 136000 teachers and 50 000 ancillary staff by 25 July 2020, which was the proposed date for re-opening of exam classes. This meant that many schools were to resort to virtual learning so that the education system could progress.

The situation in the countries of global south was totally different with that in the Global north. In developing countries Marinoni, Van't Land, and Jensen (2020) reported that in

Africa only 29 percent of educational institutions were able to move into the online leaning during the COVID-19 lock down. This was so because of variety of problems which are in African countries and these include poor economic development, inflation, unemployment and poverty. These countries were attacked by sudden shift of education from traditional face to face classroom leaning method to virtual learning whilst not prepared. This is different with countries like China which had spent more than twenty years preparing for the shift of education. According to (Zhou, Li, Wu, and Zhou, 2020) China devoted resources to support the widespread online teaching deployment, for the past 20 years and the move showed results during the COVID-19 lockdown.

Prior studies carried out found out that COVID-19 affected most learners differently in Zimbabwe depending on the socio economic class one belongs to. It was discovered from a research carried out by Zinyemba, Nhongo, and Zinyemba (2021) that COVID 19 affected most learners who attend government schools than those in private schools. It is important to note that those who attend private schools are mostly from upper-middle class and also reside in urban areas and are the ones who are likely to afford virtual learning. Maphosa 2021 noted that more than 90 percent of Zimbabwe's population has access to a mobile cellphone. Zinyemba et al. (2021) found that most educators had mobile phones which could not access electronic media platforms like WhatsApp: Twitter, Youtube, Facebook and Instagram and owning a mobile cellphone to some learners in rural areas was a dream.

According to Zinyemba et, al. (2021), the most affected learners were students that reside in rural areas as they were not attending any lessons as compared to their fellow counterparts who were in urban areas. They also found out most of the educators who were working in rural areas are from urban areas hence they travelled to their respective homes for the entire national lock down period, this left most rural schools with minimum or no teachers at all at the school. To worsen the situation of rural learners most of the educators noted that even if the educators were available at their work place, no virtual learning could have occurred as there was no proper infrastructure and basic resources that could enable them to conduct virtual learning (Zinyemba et, al. 2021).

1.2 STATEMENT OF THE PROBLEM

Studies by Davis (2010), Barbour and Pratt (2013) and Dube (2020) around virtual learning shows that the use of technology in education was not a new phenomenon. However, it used to be blended with the traditional face to face classroom education. The full time use virtual learning was the first of its kind during the COVID-19 pandemic. The researcher found out that there are gaps in the previous research conducted inline with COVID-19. Firstly the research by Zinyemba et, al. (2021), was virtually researched, which means it already had limited views of the vulnerable people who were not able to access virtual learning. The research relied on the information from facebook, twitter and whatsapp and this means information about rural people was subjective to their views. Furthermore, the literature failed to provide detailed information on how virtual learning has been done in rural schools respectively. The literature failed to give us information on whether the rural people have came up with their means to ensure that they they access virtual learning or how were they coping with the available virtual learning technologies. Last but not least, the literature failed to give detailed literature on the challenges which were being faced by the rural learners, which are unique to their situation. The research by Maphosa (2021) only aimed at analysing the effectiveness of radio broadcast as a primary virtual learning method. This research topic is broad its findings can not embraces the problems of urban, peri urban and rural learners, all learners in the whole country. It is in light of the identified research gaps that ths study focused on how virtual learning was conducted in rural areas and the associated challenges.

1.3 AIM OF THE STUDY

To assess how virtual learning was conducted in rural schools in Zimbabwe at the peak of COVID-19 pandemic using the case study of…..

1.4 RESEARCH QUESTIONS

The research sought to answer the following questions;

- How was on-linvirtual learning done at Craigie-lea secondary school in Murewa rural District during the COVID-19 pandemic?
- How did the learners at Craigie-lea secondary school benefited from virtual learning?

- What challenges were experienced by learners and teachers at Craigie-lea secondary school because of online teaching?
- How can on-line -learning be improved to enhance learning outcomes at Craigie-lea secondary school?

1.5 OBJECTIVES OF THE STUDY

Guided by the research questions, the following are objectives of the study:

- To explore how on virtual learning was done during COVID-19 lockdowns at Craigie-lea secondary school, where.
- To assess the benefits of virtual learning during COVID-19 lockdowns at Craigie-lea Secondary school
- To describe the challenges experienced by learners and teachers because of virtual learning during COVID-19 lockdowns at Craigie-lea.
- To suggest strategies that can improve virtual learning during future disruptions at Craigie-lea secondary school

1.6 SIGNIFICANCY OF THE STUDY

According to Kumar (2011), a research in the profession of social work aims at benefiting the social work profession, the client, and the administrators of the services. Therefore this study will be of importance to the following people

The study will help teachers to understand the importance of virtual learning as a method of effective teaching during disasters. Teachers will gain an insight on how they can utilize ICT, eliminated challenges they face in using technology. Kumar (2011) has it that the results of a research benefits the beneficiary or service users most since it answers the question of how effective are the services they are receiving and what will be the effects in the long run. It is in line with this view that this study will benefit the learners at Craigie-lea Secondary School. They will gain an understanding on how best they can learn virtually thereby improving academic performance.

Kumar (2011) went on to say that service providers greatly benefit from evaluative research studies as they highlight the needs of clients and how they can be improved. After the identification of the challenges, the information will be shared with many stakeholders in the education sector including the ministry in charge. The findings will be used by the Ministry

of Primary and Secondary education in finding solutions to address challenges being encountered so as to improve the use of ICT in teaching and learning.

Lastly, the research is important to the social work profession, since it adds information on assessing the the vulnerability of rural people. Social workers can now able to advocate for policies which cater for both people from rural and urban and also performing brokering roles to assist these people access the needed virtual learning tools.

1.7 CHAPTER SUMMARY

Virtual learning violated the rights of many children to access quality education because of a variety of challenges which discussed in the chapter. In the background of the study, the researcher found out that so many platforms were introduced and in Zimbabwe, radio broadcast was a primary method. The rural learners remained disadvantaged by all these moves due the problems unique to their situations. Studies conducted by other researchers, seem to have left some gaps especially, in as far as rural learners and educators are concerned. This stud therefore needs to cover the gap of previous researchers focusing on the benefits and challenges faced by learners at Craigie-lea Secondary school. The next chapter reviewed literature for the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter will focus on theoretical framework and literature review. The first section presents the Technology Acceptance Model (Model) which is the theory which was the theoretical framework of the study. The next sections focuses on how on virtual learning was done during COVID-19 lockdowns, benefits of virtual learning during COVID-19 lockdowns, describe the challenges experienced by learners and teachers because of virtual learning during COVID-19 lockdowns and strategies that can improve virtual learning during future disruptions. A brief summary concludes the chapter.

2.1 THEORETICAL FRAMEWORK

A theoretical framework is a model or set of approaches that is used in explaining and analysing collected data in a research study (Barbour, 2014). The research employed Technology Acceptance Model (TAM). Technology Acceptance Model was developed to anticipate individual adoption and use of new ITs. The Technology Acceptance Model is a model which was developed by Davis (1989), (Venkatesh and Bala, 2008). It states that individuals' behavioural intention to use an IT is determined by two beliefs, Perceived Usefulness, which was defined as the extent to which a person believes that using an IT will enhance his or her job performance and Perceived Ease of Use, defined as the degree to which a person believes that using an IT will be free of effort (Barbour, 2014). This means that the online teaching methods which was adopted at Craigie-lea was determined by their perceptions and beliefs that virtual learning would benefit their learners.

It further theorizes that the effect of external variables on behavioural intention will be mediated by perceived usefulness (PU) and Perceived Ease of Use (PEOU). There are four determinants of PU and PEOU which are, individual differences, system characteristics, social influence, and facilitating conditions (Venkatesh and Bala, 2008). Individual difference variables include personality and/or demographics for example traits or states of individuals, gender, and age that can influence individuals' perceptions of PU and PEU Kalogiannakis &

Papadakis, (2019). System characteristics are those salient features of a system that can help individuals develop favourable (or unfavourable) perceptions regarding the usefulness or ease of use of a system (Kalogiannakis & Papadakis, 2019). Social influence also captures various social processes and mechanisms that guide individuals to formulate perceptions of various aspects of an IT. Finally, facilitating conditions represent organizational support that facilitates the use of an IT. Several scholars have applied TAM for evaluating the application of different ICTs in education (; Kalogiannakis & Papadakis, 2019).

The model is applicable in this study because it helps us to know why educators adopted the teaching methods they adopted at Craigie-lea Secondary School. This is so because according to Alrafi (2009) PEU explains that the user's beliefs and views about the amount of effort required to utilize the system or the extent to which a user believes that using a particular technology will be effortless.

The model help us to understand the reasons why Craigie-lea Secondary school adopted virtual learning despite challenges associated with its location. According to the PU the adoption of technology is based on the belief that the use of that technology will produce better results .This model will help us to know the belief of people at Craigie-lea about using technology since Yee, Luan, Ayub & Mahmud, (2009) are of the view that if students and teachers perceived virtual learning system as helpful are more likely to adopt and use it.

The model shall help the researcher to see factors which hindered effective application of virtual learning at the school under study. System features at Craigie-lea Secondary school are of greatest importance in the adoption of ICT and platforms which adopted. The system is affected by the location and resources at the school. It will also help us to see how the environment, individual differences, system characteristics, social influence, and facilitating condition determine the adoption of new technology as stated as the influence of PU and PEOU.

2.2 REASON FOR THE SHIFT FROM TRADITIONAL TEACHING METHODS DURING THE COVID-19 PANDEMIC

The implementation of lockdown has resulted in suspension of Global activities, for instance normal educational activities have been affected and to proceed with the curriculum, there was a shift from traditional learning process to modern electronic process (Soni, 2021). On the same note Nadikattu, (2020) posit that virtual learning has been a significant tool for

effectively continuing the teaching-learning process during the lockdown. virtual learning instructional tools and principles of artificial intelligence are gradually gaining popularity in the world and have become a solution to the learners who are unable to access the traditional means of education due to COVID-19 (Soni, 2021).

virtual learning was defined by (Soni 2020) as the learning system that conducted via electronic media. It can also be described as virtual learning (Soni 2020). virtual learning is not a new phenomenon in education system; it has been used since long especially in tertiary education. In primary and secondary institution has been blended with traditional education system. Previously the on-line leaning was blended by tradition classroom or face to face learning method. Learners usually in primary and secondary schools were using internet to download virtual learning content. However due to the outbreak of COVID 19 and restrictions bought in as a measure to reduce its spread virtual learning became the sole learning method. According to Mnyanyi & Mbwette (2019), the outbreak of the COVID-19 causes educational institutions from all around the world to migrated from the traditional methods of learning to imparting education through on-line means. The education system has been suddenly shifted from the conventional classroom environment to electronic devices and online applications (Mnyanyi & Mbwette 2009). Most education institutions the professors and students opted for virtual learning platforms for educational purposes and to motivate students to study from their respective residents (Li, et al., 2013).

2.3 HOW VIRTUAL LEARNING WAS DONE DURING COVID 19

As a result of the problems brought in to the education system by COVID-19, modern teaching methods was the sole solution. According to British Educational Communications and Technology Agency (BECTA 2004), there a number of ICT tools in the modern teaching method and these include LCD projectors, mobile phones, internet, Web based learning, Encarta software, computer productivity tools and interactive white boards. Schools in different countries were using variety ICT tools depending on the prevailing conditions in that country which include cost, accessibility, coverage and ICT literacy level during the COVID-19 pandemic.

Through the use of technology teachers were able to share study materials in the form of PPT, PDF or Word document by uploading them on school websites, on whatsapp or through e-mails to all their learners during the lockdowns. Felix (2020) posits that, lessons have been

also provided through WeChat, through sharing audio-visual videos through e-mails and apps like Zoom, Superstar, g-suite cloud meeting. A survey conducted by the European Union found out that more than 70 percent of teachers acknowledged the important role played through systematic integration of technology (Buda,2020) Thus information technology offered a greater opportunity for teachers to reach out to learners since the outbreak of thee pandemic. . E-learning has transformed the traditional methods of teaching and learning. Due to ongoing of COVID-19 a number of learners are using the E-learning platform and applications.

Another notable example is the Ministry of Education in Georgia that has collaborated with Georgian Public Broadcaster to establish a TV school (Government of Georgia, 2020). The ministry has also created a number of virtual classrooms on different online platforms to ensure that learning continue during this pandemic. There were also two online platforms that are mainly used during this COVID-19 crises; G-Suite and Edu-Page (Government of Georgia, 2020). Amid this crisis, the Association of African Universities has created an online resource page to assist educational institutions to properly plan for online classes and a smooth shift to E-learning and is offering efficient learning through online mode of education (Soni, 2021). Most educational institutions are uploading study material on their websites.

Big ICT companies such as Google, Microsoft and Zoom are offering various educational facilities for free to educational institutions in counties like USA. According to the recorded report Microsoft team users were 750 as of 10th March but by 24th March it has risen up to 138698 which is indeed a significant growth (OECD, 2020). Zoom has elevated the video calling time limits in Italy, Japan, US and China on request (Molla, 2020). The world still demands much more access to Zoom and Google Meet communication solution facilities. Thus, globally there has been a huge and sudden change in the field of academia with the spread of the deadly COVID-19 virus. There has been a global transition to online methods of teaching and learning (Basilaia, et al., 2020). The conventional classroom atmosphere has been replaced by digital means to stop the spread of the virus and to ensure safety of the educators and learners.

The situation in the countries of global south was totally different with that in the Global north. In developing countries Marinoni, Van't Land, and Jensen (2020) reported that in Africa only 29 percent of educational institutions were able to move into the online leaning

during the COVID-19 lock down. This was so because of variety of problems which are in African countries and these include poor economic development, inflation, unemployment and poverty. These countries were attacked by sudden shift of education from traditional face to face classroom leaning method to online learning whilst not prepared. This is different with countries like China which had spent more than twenty years preparing for the shift of education. According to (Zhou, Li, Wu, and Zhou, 2020) China devoted resources to support the widespread online teaching deployment, for the past 20 years and the move showed results during the COVID-19 lockdown.

2.4 BENEFITS FROM VIRTUAL LEARNING DURING COVID-19 PANDEMIC

The reviewed literature shows that benefits of virtual learning include shared learning resources, shared learning spaces, the promotion of collaborative learning and the move towards autonomous learning.

2.4.1 SHARING LEARNING RESOURCE

In terms of sharing learning resources learners can share information using ICT tools. Romeo (2006) opines that ICT has the potential of enabling students and teachers to use video systems to transmit television programmes and information throughout an entire school and even between schools in the same district. In turn, sharing learning resources has the potential of minimising costs and improving the quality of teaching

and learning, especially in under-resourced schools (Gomba 2016). In terms of shared learning spaces, networked computing facilities create a distribution environment where learners can share work spaces, communicate with each other and their teachers in text form, and access a wide variety of resources from internal and external databases via web-based systems through the Internet (Gomba 2016). Mdletshe, (2013) posit that sharing learning space could go a long way in reducing the problems of overcrowding and lack of teachers which are said to be at an alarming stage, especially in rural areas schools of Zimbabwe

2.4.2 COLLABORATIVE LEARNING

The use of ICT during the COVID-19 pandemic was very essential in providing opportunities for teachers and learners to collaborate. According to Salehi and Salehi, (2012) the use of

ICTs in teaching and learning has been shown to provide numerous opportunities for teachers and students to efficiently work in an information age. In relation to collaborative learning, Romeo (2006) argues that the use of ICT will make it possible for much of what we now see as individual learning to change and become collaborative in nature. Sarker (2012) concurs that ICT, especially the internet, can enable the widespread sharing of valuable resources in both traditional and interactive forms, affording the means of collaborative learning distributed over time and place as needed

2.4.3 AUTONOMOUS LEARNING

Furthermore, virtual learning promotes autonomous learning, computers and the power they bring to the student to access, manipulate, modify, store and retrieve information promotes greater autonomy in learning (Wheeler, 2000). In turn, such students' learning autonomy will enable children to exert more choice over how they approach study, requiring less direction from teachers. When students become increasingly independent and able to direct their own studies to a greater extent, the teacher's role will become more and more a guide or moderator rather than as a director (Sibanda et al 2016).

2.4.4 AGENT FOR CHANGE

Mathevhula and Uwizenyimana (2014) are of the view that ICT in learning can act as an agent for change by significantly enhancing educational reform which enable teachers and learners to move away from traditional to more innovative and effective approaches to teaching and learning (DoE, 2003). Thus, among the multifaceted benefits of using ICTs are also that they motivate pupils, provide variety, compensate for language deficiency, encourage active participation, reinforce learning, increase application possibilities, enhance the applicability of the learning content provided for the learning needs of individuals pupils, and supplement the spoken word (Mathevhula and Uwizenyimana, 2014)

2.4.5 INNOVATIVE INSTRUCTIONAL TECHNIQUES

Dlamini and Coleman (2017) postulate that learning using ICT tools present tremendous opportunities and innovations to improve learners' attainment and enhance their educational experience. This is supported by (Tan, 2012) who posits that ICT tools open up exciting and innovative instructional techniques that may be used to overcome student passiveness and

enhance critical thinking skills. In addition Sarkar (2012) posit that ICT can lead to improved student learning and better teaching methods. Tools are now available on the Internet to assist both teachers and students to manage writing assignments to detect and avoid the pitfalls of plagiarism and copyright violations. The author also states that, one of the great benefits of ICTs in teaching is that they can improve the quality and the quantity of educational provision. A research by Khan (2012) revealed that academics have taken to the use of computer in teaching much more readily than they adopted earlier audio-visual media. This is because the strength of computers is their power to manipulate words and symbols - which is at the heart of the academic endeavour (Sarkar, 2012). Generally, ICT to a number of commentators, enhance teaching, learning, and research, both from the constructivist and instructive theories.

2.4.6 INCREASED ACCESS TO INFORMATION

Sarkar (2012) posit that ICTs used on virtual learning have the propensity to increase access to education ICTs are a prospectively prevailing tool for developing educational opportunities, both prescribed and non-prescribed. One important characteristic of ICTs is their capability to go beyond time and space. ICTs make it feasible to achieve learning which is exemplified by a time delay involving the deliverance of instruction and its receipt by students which is termed as asynchronous learning. Course materials can be retrieved and used 24 hours x 7days. Sarker (2012) also views ICT as a key to access reserved educational capital, with the advent of the internet and the World Wide Web, it is now possible to gain access to an unlimited amount of data and educational materials. Data in almost any subject and diverse forms of media can be accessed from any place at different times of the day and by an unrestricted number of individuals. Khan (2012) concurs that ICTs enable access to the opinions of professionals, experts and researchers all over the world and allows one to be in direct communication with them.

2.4.7 FLEXIBILITY

ICT allows education providers to accommodate the specific needs of students in terms of mode, pace, place and time of study and to cater to different and new target groups and (niche) markets both locally and globally (Sarkar, 2012) . In relation to this, the author states that

computer multimedia offers ideal opportunities for creating and presenting visually enriched learning environments.

2.4.8 MOTIVATES LEARNERS

ICT enhance learners' motivation as Khan (2012) argues that, implementation of ICT tools in education will inspire and stimulate students' interests in learning. Sarker (2012) concurs that students express more positive feelings towards work and education when they use computers to complete tasks. ICT enhance the acquisition and absorption of knowledge for the benefit of learners and teachers. Sarkar (2012) states that teachers and learners no longer have to rely solely on printed books and other materials in physical media housed in libraries (and available in limited quantities) for their educational needs. Khan (2012) affirms that with the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at any time of the day and by an unlimited number of people.

2.4.9 IMPROVEMENT IN THE PERFORMANCE OF LEARNERS

Mandoga, Matswetu, and Mhishi,(2013) are of the view that ICT in education is a significant key driver for pupil achievement through enhanced production of information and knowledge. The 20effective use of ICT in education also has the potential to enhance achievement among the pupil through greater collaboration, improved communication and opening of wider opportunities to share information.

2.5 CHALLENGES WHICH HAVE HISTORICALLY AFFECTED RURAL SCHOOLS

The education situation worldwide was a question to be solved before the coming of COVID-19 pandemic. The coming of COVID-19 was a last blow on the already weakened education system especially in African countries. So many children were out of school due to poverty and natural disasters. According to Wooden, Bell and Huebler (2018, an estimate of 58 million children between the age of six and eleven remain out of school and an additional of sixty-three million adolescents roughly between ages of twelve and fifteen were not enrolled world wide by (2015) and the rural areas are among the most affected and the poor. In addition to this, was a question of the quality of education received by learners in rural

areas. World wide there are disparities in terms of the quality of education received in rural areas and that one received in urban areas.

Beckman and Gallo (2015) are of the view that, many schools in rural communities do not have equal access to the resources necessary to support the students, making it difficult to provide quality education. UNESCO (2015) supported this view arguing that, the disparities between children living in rural areas and urban areas remain such a persistent issue in so many countries. These disparities were worsened by the coming of COVID -19. UN, UNDP and UNESCO (2020) concurred on this view arguing that, virtual learning method which was introduced as a way to continue learning during the pandemic widening inequalities, increasing marginalisation and inability of most disadvantaged students to pursue their studies and acquire knowledge and skills that support a health transition to adulthood. On average the disparities of out of school children of rural areas are twice that of urban areas (sixteen percent and eight percent respectively) (UIS & UNICEF, 2015).

In as much as problems which affects rural education varies from one country to the other, the literature shows that there are some similarities in the problems which faces these communities. Beckman and Gallo (2015) found out that poverty, gender and in some places conflicts are challenges which are found in many rural areas, especially in developing countries like Zimbabwe, Mozambique and Somalia. In addition to this are government policies to practical issues of distance and safety. They frequently involve a lack of most basic resources like, electricity, sanitation and books as well as issues of preparing, recruiting and retaining teachers (Beckman and Gallo, 2015). These are some of the challenges which were being faced by rural schools globally despite the coming of COVID-19 which were worsened by the pandemic. Globally qualified teachers in science and mathematics are difficult to get in rural schools. For example in Indian rural schools, teachers are not much skilled and qualified (Kapur, n.d). Teachers mostly prefer to work and live in urban areas more than in rural areas

United Nations (2020), has it that, in Africa, particularly the Sahel region school closures due to COVID-19 pandemic came at a point where most schools had already closed due to a variety of factors. These factors factors include strikes as a result of lower salaries in countries where there was a high rate of inflation like Zimbabwe. Climatic hazards like cyclones did not spare education sector for example, cyclone idai in Zimbabwe and Mozambique in (2019).

Other factors which had already threatened the education system of African schools despite COVID-19 include poor infrastructure in rural schools, lack of ICT facilities like computer labs, long few schools in rural areas and inexperienced teachers. In a study carried out by Zvavahera (2015) found out that sixty percent of the schools lacked computer facilities like computer labs and there is no internet in rural areas in Zambia yet ICT requires internet. Without internet there could be no online or distance learning. This pose a great challenge in rural school children in times like the COVID-19 era where virtual learning was the only means for education. In India number of schools in rural areas is another challenge, schools are located at a distance from homes and children are required to travel distant places.

This is the same in Zimbabwe in Murewa rural District children could travel more than 5 kilometers to access a primary school and twice that distance to access a secondary school. This result in schools having more children than they can accommodate and offers a strain to the already strained resources and multi grade teaching by those inexperienced. Plesis and Mestry (2019) supported this view arguing that, rural schools face severe challenges that are unique to their environment , a lack of parental interest in children`s education, insufficient funding from the state, a lack of resources, under qualified teachers and multi-grade teaching in their study of Mpumalanga rural province of South Africa.

In Zimbabwe education was already in a weaker state due to so many episodes of strikes, up to the day of writing this research the civil servants especially teachers are still on strike due to lower salaries which are not meeting their needs in this inflation sickened economy. UNICEF (2020) noted that inflation has risen sharply and the financial situation of teachers has become increasingly difficult. Generally despite these challenges, rural schools in Zimbabwe are poorly built and have poor infrastructure. Many classrooms in rural areas old and dilapidated and in some cases children can conduct their lessons under the tree. In a research carried out by Zvavahera (2015) in Mazowe district, the researcher observed that some rural schools were using tobacco bans and farm sheds as classrooms and in some cases as accommodation for teachers. This situation is not only in Mazowe district, in Murewa rural district most rural schools are located on places where there was tobacco bans and old dilapidated farm houses to provide accommodation for the teachers. For example Mushawatu primary, Hanwa primary, St columbas and Nyamita all these schools are located near or on the former white farms houses. The structures are now old since they are not being repaired.

Water and electricity is another major challenge in rural schools in Zimbabwe. In the same research Zvavahera (2015) found out that water, electricity and other basic services were in adequate in schools in Mazowe district. Network is a greatest challenge in rural schools in Zimbabwe. This makes it difficult for the teaching of ICT subjects and to use to this devices. Distance learning is also difficult to think of it in these areas. Accompanied to this is shortage of mathematics, science and ICT teachers. Due to poor living conditions and working environment of in rural communities, teachers does not like to work in rural areas. Droughts which were affecting Zimbabwe year after year caused poverty to the rural areas which were solely depending on agriculture . this makes parents failing to pay school fees and books for their children making it difficult for the schools to operate. Surrounded by these and other challenges COVID-19 came to throw a last blow on the dying education system in Zimbabwe.

2.6 CHALLENGES AS A RESULT OF VIRTUAL LEARNING INTRODUCED DURING COVID-19

Challenges which were faced during COVID-19 include ;lack of virtual teaching skills of educators, online preparation of lesson plans as it is very time-consuming, lack of appropriate support from the technical teams, and overload in virtual educational platforms. Not only the teachers but the students also face challenges due to their deficiency of proper learning attitude, lack of suitable materials for learning, more involvement in classroom learning, incapability of self- discipline, and the inadequate learning environment at some of their homes during self-isolation.

2.6.1 QUALITY AND EQUITY ISSUES

virtual learning has so many challenges as compared to the benefits. For students, home schooling also surfaces educational quality and equity issues, which arise from differential access to digital devices to work and learn online. In their study Mukute, Francis, Bunt and Scuza, (2020) shared the experience of a Zimbabwean parent who shared how her four children in different classes were to compete for one digital device to support their virtual learning closure. Many parents were either unwilling or unable to provide the necessary enabling learning environment and support in the home. There is also issue of gender equity and equality, UNESCO (2020) found out that girls were among vulnerable groups in terms of

access to virtual learning, this is so because of time, girls are associated with many domestic chores which made them difficult for them to have time to attend lessons.

2.6.2 LACK OF INCLUSIVENESS

Learning from home is done online and through radio and television programmes, which is creating new learning and work challenges. These teaching modalities are not suitable for all students. An example was given by Munyanyi and Mbwete. (2020), in Malawi learners who had disabilities such as hearing and visual impairments were to depend entirely on family members to help them with home-based learning yet, some of these learners live with family members who do not have basic knowledge of sign language for using with those with hearing impairments.

2.6.3 INADEQUATE INFRASTRUCTURE

Moreover, lack of infrastructure is another challenge in online technologies. Some of the schools had computers but due to unavailability of power infrastructure the resources were just idle. Konyana and Konyana (2020), in his study in Chipinge found out that most of the gadgets have been lying idle in classrooms due to lack of either proper infrastructural facilities as computer labs, electricity and ICT trained personnel. The acting coordinator for local non-governmental organisations, Education Coalition for Zimbabwe (ECOZI) Clemence Nhliziyo in the Herald of (3 July 2021), is of the view that, online lessons offered by some teachers were out of reach of many ordinary Zimbabwean parents and the situation was worsened by network and power challenges. He went on to say, rural schools used to suffer the perennial shortage of physical books and now they suffer the lack of access to on-line, virtual learning platforms.

2.6.4 HIGH ICT ILLITERACY RATE AMONG BOTH EDUCATORS AND LEARNERS

There is scant literature concerning the effectiveness of virtual learning during COVID 19. A study by Soni (2021) in Georgia found that various virtual learning strategies have been put in place to ensure that education has continued during the COVID-19 pandemic. The study revealed that lack of online teaching skills in educators and lack of technical support were the main challenges facing virtual learning. A study by Mandina (2015) shows that teachers

lacked the knowledge and skills on how to use computers into their daily teaching practices thus most of the teachers do not use computers in their classrooms. Lack of individual skills has been considered by several researchers as a challenge to effective use ICT during virtual learning.

Musarurwa (2012) argue that the impact of ICT highly depended on how it is used. They also posed that, the impact of a specific ICT application or device depends on the capacity of the teacher to exploit it efficiently for pedagogical purposes. Therefore for teachers to use ICT into their teaching effectively, they must have the basic skills needed to operate computers and other related ICTs and schools must have the necessary infrastructure. Musarurwa (2012) attributed poor implementation of ICT in teaching and learning to lack of ICT education skills in the end users (teachers and learners). Mandina (2015) concur that lack of adequate qualified ICT teachers hinders effective application of ICT in education. This implies that even if the school has adequate ICT resources and teachers qualified to teach during the pandemic but with inadequate ICT skills, the application of ICT in learning would be very difficult.

Mandina (2015) concur in their research findings that there is very limited human resource capacity or lack of skilled personnel to use ICT in teaching and learning in schools in most African countries. Musarurwa (2012) Affirms that very little was being done to expose teachers to ICTs yet they are expected to help learners in schools with ICT skills. Aduwa-Ogiegbaen and lymn, (2005) noted that utilisation of ICT in schools, needs emergency technical personnel to set up, maintain and support the systems. Teachers lack the skills needed to completely utilise the ICT tools in their teaching thus the traditional method of teaching still exist. This is supported by Mandina's (2015) study that found that lack of technological pedagogical content knowledge greatly constrain teachers from using ICT. The researcher concluded that design thinking capabilities should be cultivated in every classroom teacher for effective use of ICTs into teaching and learning in future disasters.

2.6.5 PERCEPTION AND ATTITUDES

Mikre (2011) assert that teachers' attitudes play an important role in the teaching learning process that utilises computers and Internet connections. A research by Bukaliya and Mubika (2011) found that although school principals (heads) had positive attitude toward the use of computers, teachers had negative attitudes. One reason given for the negative attitudes was

that some teachers were older and had never had the chance to use computers. As a result, they did not trouble themselves with computers when they are on the verge of retiring. Another problem is the phobia of computers and that leads to the resistance of the use of computers at schools during the pandemic

2.6.6 POOR INTERNET CONNECTIVITY

A research done by Gomba (2016) found that poor internet connection greatly hinder the application of ICT in most rural schools in Zimbabwe." This implies that even if some schools have computer, without internet connections those computers will be useless. this is the case in many African countries, schools in rural areas have ICT tools which is idle due to poor internet connection.A study by Mandina (2015) also reveals that that unavailability of internet access hinders effective use of ICT in primary schools in Chegutu, Zimbabwe. The study found that Internet connectivity does not exist in all the schools under study hence teachers have no/limited access to internet

2.7 STRATEGIES THAT CAN ENHANCE ONLINE TEACHING DURING EMERGENCIES

2.7.1 ALTERNATIVE SOURCE OF POWER

In their research, Sibanda et al (2016) recommended that; alternative sources of power such as solar energy and generators be put in place to alleviate the problem of electrical power cuts, ICTs be integrated into the current curricula, government and stakeholders provide funds for procurement and maintenance of ICTs in schools, technical support be provided in schools to ensure that help for those in need is always available and facilities are kept in their expected operational status. A research by Ngwu (2014) revealed a low extent utilization of ICT resources and related technologies in the schools under study. The research recommended provision of funds for procurement and maintenance of ICT resources, ensuring existence of functional computer laboratories, consistent power supplies in schools and provision of in- house training for teachers so that they keep in touch with the developments in ICT and related technologies.

2.7.2 POVISION OF ICT TOOLS

The previous research recommended that ICT tools should be availed in institutions of learning and teachers should make an effort to acquire these tools since they are an integral

part of instruction delivery. This was complemented by Adedeji (2011) who suggested that governments should invest in provision of ICT resources to schools for training because the findings of his research revealed that most ICTs available in schools were being utilized for administrative purposes only.

2.7.3 STAFF TRAINING

The need for proper staff training was also mentioned as a strategy to improve the effectiveness of virtual learnin. In his research paper Mandina (2015) suggest that teachers should be thoroughly inducted on how to operate the machines before they could utilize them in their lessons. Ndawi et al., (2013) supported the above view when he purports that it is a well known fact that professional teacher development is a key to successful integration of ICT in the teaching and learning process. Ndawi et al (2013) further says that teachers should not be ignored if there is need for successful use of technology in and teaching and learning.

In order to improve the use of skills of teachers, they should be developed professionally. They also indicated that a digital classroom starts with the teacher. Training of teachers results in effective use of ICT tools for planning lessons. The purpose of a teacher has changed from an instructor to being a facilitator as learners discover for their selves in the ever changing world. Access to technology resources was mentioned as a challenge in the application of ICT in teaching and learning. Sibanda et al., (2016) says that there is need for accessibility and flexibility of use over and above quantity of machines. They recommend that management should solicit for more computers from all sources possible.

2.8 LEGAL, POLICY AND PROGRAMME FRAMEWORKS THAT PROMOTES ACCESS TO EDUCATION BY CHILDREN IN ZIMBABWE.

Zimbabwe has adopted so many different legal frameworks, policies and programmes to promote access to education for every child. Legal frameworks which governs education in Zimbabwe include the constitution of Zimbabwe, the Children`s Act chapter 5:06 and the Education Act. On top of these are policy frameworks like the Non-formal Education Policy (NFEP) . Different programmes are also there to promote access to education in Zimbabwe and these include Basic Assistance Education Module (BEAM) and the school feeding scheme programme.

2.8.1 THE CONSTITUTION

The primary policy which promotes access to education is the Constitution of Zimbabwe which was amended in 2013. The section 75 of this constitution provide that, every citizen and permanent resident of Zimbabwe has a right to a basic state funded education , including adult basic education. It went on obliged the state to take all possible measures within the limit of resources available to achieve the progressive realisation of the right to education, considering that section 81 (1) (f) states that every child has the right to education. It is in line with this legal framework that the government of Zimbabwe had to find anything possible to uphold children`s right to education. However, due to lack of resources and the sudden coming of the COVID- 19 which found the government unprepared many children were to find their right violated.

2.8.2 EDUCATION ACT

The education Act is in support of the constitution of Zimbabwe. The education amendment act of 2020 calls for progressive realisation of the right to basic state funded education. By state funded education, it means that pupils shall not be required to pay their school fees and the state shall provide them with learning and teaching material facilities, material and infrastructure (Section 2of Cap 25.04 of the education act). This provision caters for children at primary and secondary school. It is the duty of the state to provide educational needs of these children. As per this act the state was supposed to come up with measures and resources for the children during the pandemic to ensure that they continued with their learning. The state also protects a girl child from being expelled from school if she is pregnant

2.8.3THE NON-FORMAL EDUCATION POLICY (NFEP)

NFEP is a policy which was introduced by the Ministry of Primary and Secondary Education in order to guide and regulate the NFE. According to Kapur (2018), NFE is any intended, deliberate and a systematic educational enterprise that is regularly outside the system of traditional schooling in which the curriculum and the instructional system are organised in such a manner that they get easily adjusted to the exceptional requirements and needs of the students or may be beneficial in case of unique situations and occurrences with the main motive of maximizing leaning and minimizing other aspects which often engage formal school teaches

such as taking the roll, implementing discipline, writing reports, supervising the study and the examination rooms. The aim of the policy was to promote and facilitate the equal provision of quality, inclusive and relevant non-formal education (NFED, 2015). The policy was also aimed at increase access to education through the non-formal route and provide adult learners, youths and out of school children with functional skills (NFED, 2015). The programmes which were offered under this policy are basic literacy, functional literacy, Zimbabwe Adult Basic Education Course (ZABEC), Part Time Continuing Education (PTCE) and Open Distance Leaning (ODL) (Kapur, 2018).

2.8.4 BASIC EDUCATION ASSISTANCE MODULE (BEAM)

BEAM is a social assistance programme which was introduced by the government of Zimbabwe in 2001 (Mutasa 2015). The objective of the programme is to enhance access to primary and secondary education for OVCs. Ten percent of the programme beneficiaries reserved for the disabled children (Gunhidzirai, 2021). The programme is administered by the Ministry of Public Service, Labour and Social Welfare. It provides levies and building assistance for Orphans and Vulnerable Children (OVCs) in 2021 they tried to extent the programme to cover uniforms and stationery (Mutasa, 2021). However, the budget is shrinking each and every year leaving many vulnerable children out of school and this undermines the SDG1. As of 2022 the budget is said to cover only a quoter of children as it only assisted 446 844 vulnerable children country wide (Gunhidzirai 2021). They failed to provide the uniforms as they had promise. The programme is being under financed which is and some children are facing challenges in collecting “O” level results because at times the programme can spend two years without paying school fees.

2.09 CHAPTER SUMMARY

The chapter looked at the theoratical framework, of which Technology acceptance model is the theory which was found applicable in this research. The literature informed us about online method adopted during the COVID-19, benefits and challenges encountered. So many legal instruments which promotes access to education in Zimbabwe, however some of the programs and aims were violated by COVID-19. The next chapter presents the research methodology which was employed in this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the research methodology of this study. Methodology explains the process by which a researcher may proceed with a research. Research methodology is defined by Shama (2017) as a science of studying how research is is to be conducted. This chapter presents the research approach, research design, research methods including the setting of the study, target population, sampling, data collection methods and tools, ethical considerations, feasibility and limitations of the study. A brief summary concludes the chapter.

3.1 RESEARCH APPROACH

This research employed qualitative research approach. Creswell (2014) defined qualitative research as an approach for exploring and understanding the meaning individuals or groups ascribe to a social or human problem. In this case what human problem were you exploring? This research is focusing on the problem brought by lockdowns to education system as a way to respond to COVID-19. With the qualitative research approach, the researcher will understand the determinants of e-leaning for teaching and learning, the feelings, opinions, attitudes and perceptions of the participants in the new learning method.

3.2 RESEARCH DESIGN

According to Bouchrika (2020), a research design is a general plan to answer a research question. It is a systematic approach of conducting scientific inquiry, it brings together several components, strategies & to collect data and analyse it (Bouchrika 2020). In with the qualitative research approach, this study used descriptive case study research design. Creswell (2014) defined a case study as a method of investigation used in qualitative research whereby the researcher develops an in-depth analysis of a case, often a project, event, process, activity, an individual or a group. In this study Craigie-lea secondary school was

used as a case study to assess how virtual learning was done in rural schools at the peak of COVID-19 pandemic.

The case study was selected because of its flexibility and it permitted mutual interaction between the researcher and the study participants. Moreover, it gave the researcher more insight into understanding the challenges which were faced by rural learners in trying to adapt the virtual learning method through in-depth interviews with both educators and learners. To add on, another reason for using a case study was that the researcher was able to use many different data collection techniques in the data collection process such as in-depth interviews and key informant interviews

3.3 RESEARCH METHODS

According to Creswell (2014), research methods are methods by which you conduct into a subject or a topic. It aims at finding solutions to research problem. The researcher employed qualitative research methods which rely heavily on indepth interviews and key informants interviews. In order to understand the determinants of virtual learning for teaching and learning, the feelings, opinions, attitudes and perceptions of the participants in the study, are going to be taken into account. Interviews, close ended and open ended questionnaires are appropriate research methods since they helps to probe more information and generate valid data

3.4 SETTING OF THE STUDY

The research was conducted at Craigie-lea secondary school in Murewa rural district which is located in Mashonaland East Province of Zimbabwe. Murewa is located about eighty (80) kilometres North-East of Harare on an altitude of 900-1200 (FAO, 2010). According to FAO (2010), the area usually receives 900-1000mm of rainfall, six months per year, however due to climate change the amount of rainfall varies per year. According to the Census (2012) report 67 percent of the population earned their lives on agriculture and this means that the main economic activity in the area is farming and the farmers are mostly peasant farmers. The census found out that children as early as the age of 15 were economically active and they constituted forty-two (42) percent and two (2) percent of the ages between 10-14 were also involved in economic activities. This shows that there is high rate of children who are out of school in the area. On the households in the area, it was found out that sixty-three (63) percent are traditional type (which are huts made up of pole and daga and grass for thatching) (Census, 2012). So many houses have no access to electricity, as noted that seventy-two (72)

percent of households had no access to electricity. In line with this, it was found out that eighty (80) percent of the households relied on wood for cooking and this resulted in massive deforestation. Also forty-two (42) percent of the population had no access to safe water, they rely on water from unprotected well, rives and dams. Those who had access to safe water usually resides in urban areas.

3.5 TARGET POPULATION

According to Barbour (2014), a target population is a complete set or collection of components whereby one opts to make some inferences during the research study. From this definition population can mean a group of individuals that has one or more characteristics in common that are of interest to the researcher. The research was targeting 30 learners and 12 key informants.

3.6 SAMPLE AND SAMPLING TECHNIQUES

Sampling is defined by Sharma (2017), as the taking of a subset from chosen sampling frame or entire population. A sample is a section of participants selected from the target population (Coghlan and Brannick, 2014). This study used a sample of one (1) school head, six (6) teachers and 12 learners, consisting of equal number of boys and girls to ensure equal gender presentation.

To collect data, the researcher utilised convenience or availability sampling. According to Creswell (2014) convenience sampling is a non-probability sampling method that relies on data collection from members of a target population who are conveniently available to participate in the study. In convenience sampling, there is usually no criteria for participant inclusion that is used prior to selecting the subjects, participants just selected because they are often readily and easily available. In convenience sampling respondents are chosen in a non-random manner based on their availability and knowledge on the phenomenon being studied. The researcher used convenience sampling to select children who were close to her and the teachers whose homes were nearby to the researchers residence. Craigie-lea secondary school is also located near the researcher`s resident which made it easier and cheap for the researcher. Creswell (2014), has it that convenience sampling tends to be a more favourable sampling technique among students as it is inexpensive and an easy option compared to other sampling techniques.

The advantage of this approach is that since experts tend to be more familiar with the subject matter than non-experts, opinions from a sample of experts are more credible than a sample that includes both experts and non-experts, although the findings are will not generalised to the overall population at large (Creswell, 2014).

3.7 DATA COLLECTION METHODS AND TOOLS

Data collection is a process of gathering and analysing specific information to proffer solutions to relevant questions and evaluate results (Creswell, 2014). According to Coghlan and Brannick (2014), data collection tool refers to the devices/instruments used to collect data, such as paper questionnaire, case studies, check lists, interviews, observation sometimes and survey are all tools used to collect data.

Data was collected using structured in-depth interviews and the key informant interviews. The in-depth interviews used to collect data from learners and the key informants were teachers and the school head. This is in line with Cohen, Manion& Morison (2007) contention that if two or more different data collection instruments are used, then the validity of the research results is not only increased but assured. A brief presentation of how each of the two instruments was used is given below together with its strengths and weaknesses.

3.7.1 INTERVIEWS

Interview is one of the methods which was used in data collection. In-depth interview can be defined as one to one or face to face interview, they only involve interviewee and interviewer, their aim is to obtain the story or interpretation of the person being interviewed (Creswell 2014). Interviews with twelve learners were conducted with the interview guides (see Appendices 2). The interviewers would express theirselves and the researcher note down information given by the respondents in her notebook.

The interviews had the advantage of offering the participants a wider scope of flexibility. For each question, the researcher had an opportunity to follow up on any revealing leads given by the participants. In this respect Coghlan and Brannick (2014), posits that probing the participants further may help clear the misunderstandings and misconceptions that may arise. Researcher could easily establish rapport with the participants in the in-depth interviews. Rapport is mutual trust or relationship which can be gain by researcher when conducting a

research. It is important in research because it enables the researcher to probe for more information and also sensitive issues can be discussed.

Nevertheless, interviews have their own weaknesses, the data collected may be biased and misleading especially when the interviewee is aware of the perspectives of the interviewer. The interviewee may give biased information with the aim of pleasing the interviewer (Sharma, 2017). Furthermore some interviewee may hide information to the researcher despite it having the potential to help in finding remedies for the problem at hand and It is also time consuming.

3.7.2 KEY INFORMANT INTERVIEWS

Key informant interviews was another research method used by the researcher to collect data. According to Sharma (2017), key informant interviews are one on one dialogues that involve interviewing people who have particularly informed perspectives on an aspect of the program being evaluated. The researcher can conduct face-to-face interviews with key informants that involve loosely structured and generally open-ended questions that are few and intended to elicit views and sentiments from the key informant (Creswell, 2014). The data was collected using key informant interview guide. The reason for using key informant interviews is that they are easier and less expensive since they involved only one respondent and one interviewer and do not require tokens of appreciation like participatory incentives and refreshments. The head of the school and the teachers were the key informants in this study.

3.8 DATA PRESENTATION AND ANALYSIS PROCEDURES

Neuman (2014) describes data analysis as a technique for collecting and analyzing the content of the transcript. It also refers to words, meanings, pictures, symbols, ideas, themes or any message that can be communicated. The demographic data was collected and presented in a table to ensure that the information was properly presented for clarity and for the purpose of clearer analysis. Thematic analysis was used because of its emphasis on pinpointing, examining, and recording patterns or themes of the collected data (Sharma, 2017). Thematic analysis suited questions relating to people's experiences, and their people's views. Therefore, it suited questions about how virtual learning was conducted, was is it beneficial or a disgrace to the rural learners. Thematic analysis also allowed the researcher to

develop a understandable evaluation of the data collected, and to develop an insight into the data.

3.9 ETHICAL CONSIDERATIONS

According to Coghlan and Brannick (2014), ethical issues refer to morally upheld standards in research that distinguish what one ought or ought not to do during research. The following research ethics were taken into account during the course of the research.

3.9.1 CONFIDENTIALITY, ANONYMITY AND PRIVACY

Confidentiality is about how others manage your private information. The researcher handled information concerning the respondents in private manner. Anonymity refers to not being asked to give personal information that will enable others to not to recognise you (Coghlan and Brannick, 2014). Participants were assured that their names and the the information they provided was going to be dealt with in the strictest confidence. To uphold this ethic, the researcher used pseudo names for the participants when required to give names.

3.9.2 VOLUNTARY PARTICIPATION

According to Sharma (2017) voluntary participation refers to research participant's exercise of free will in deciding whether to participate or not to in a research study. This principle of voluntary participation was explained in the consent and assent forms to the participants and they were informed that they had the right to withdraw from the study at any time.

3.9.3 INFORMED CONSENT AND ASSENT

Participants have a right to be informed about, for example, the goal of the research, what procedures will be followed and the credibility of the researcher to put them in a position to give permission or consent (Creswell, 2014). The principle of informed consent was explained verbally to the interviewees. Informed assent was adopted to the children. Informed assent means approval or agree to take part in the research process, children must be mature enough to understand what they required to do. According to this principle the minor can also disagree (dissent) to participate in the research process.The purpose of the study and the research process was explained.

3.10 FEASIBILITY OF THE STUDY .

Feasibility refers to the capability of being done, effected, or accomplished (Neuman, 2014). The research was feasible considering that the researcher lives in the district and went to the school understudy for her primary and secondary education, so the research was familiar with the research setting, it was easily accessible. Another factor is that the researcher was welcome at the school and the teachers together with the school head were welcoming and cooperative. So the researcher was permitted to conduct the research by the school head of Craigie-lea Secondary (see Appendix 3)**.**

3.11 LIMITATIONS OF THE STUDY

According to Neuman (2014), limitations are potential challenges that may be encountered and prohibit the expected results and the researcher may not have control over them. The research was conducted during the COVID-19 pandemic, so the researcher had minimum interaction with the participants, this gave the researcher a little room for probing.

3.12 CHAPTER SUMMARY

The chapter looked at the how the research was conducted, the research employed qualitative research methodology where in-depth and key informant interviews used as data collection toools. The targert population was comprised of 30 people and a sample of 13 people was taken. The data was going to be presented thematically. The following chapter is going to present, analyse and discuss the findings

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 INTRODUCTION

This chapter presents, analyses and discusses data collected in during the study . The presentation of data was done thematically. The first section presents the demographic profiles of the study participants, followed by data on how online leaning was done at Craigie-lea, the benefits, challenges as well as recommendations

4.1 DEMOGRAPHIC PROFILES OF THE STUDY PARTICIPANTS

According to Sharma (2017), demographic characteristics are classifiable features of a population. The demographic characteristics of teachers are presented on a separate table with those of learners. Table on fig 4.1 represent the demographic features of teachers and the table on fig 4.2 represents the demographic features of learners.

The data was collected using interview guides from the school Head, teachers and learners For the effective data presentation the school head was given code H, teachers were given later as their codes like, K1, K2, K3, K4. K2 and K1. Learners were given numbers as their codes that as follows; from L1 up to L12. The demographic data was presented in a tabular manner and the rest of the data was presented through descriptions and explanations

THE DEMOGRAPHIC FEATURES OF THE RESPONDENTS WERE EXPLORED AS FOLLOWS:

Table 4.1: AGE, GENDER AND CLASS LEVEL OF THE LEARNERS

Learner	Age	Gender	Class	Participated virtual learning	Number of lessons
L1	13	F	1	Yes	all
L2	14	F	1	No	
L3	14	M	1	No	
L4	15	M	1	No	
L5	15	M	2	Y	all
L6	14	M	2	No	
L7	14	F	2	Y	half

L8	15	F	2		
L9	16	F	3	Y	half
L10	17	M	3	Y	all
L11	17	M	3	No	
L12	18	M	4	Y	half

Here discuss table 4.1 above what does it mean?

To ensure equal gender representation the sample was comprised of six girls and six boys and out of them five were in the age range of 10-15 years and seven were in the age range of 15-20 years. Amongst the females, two were form ones during the lock down period, three were form twos and one was form three. Amongst the boy learners two were form ones; one was form two; two were form three, one was form 4 and this was crafted to ensure that each and every class was represented. Three learners manage to attend all lessons during the lockdown, the othe othe three attended half of the lesson and six did not attend at all.

4.2 DEMOGRAPHIC PRESENTATION OF KEY INFORMANTS

Designation	**Age**	**Gender**	**Working period**	**Practiced online learning**
Teacher K1	**27**	**M**	**2**	**Yes**
Teacher K2	**29**	**F**	**4**	**Yes**
Teacher K3	**30**	**F**	**5**	**No**
Teacher K4	**35**	**F**	**7**	**No**
Teacher K5	**38**	**M**	**11**	**No**
Teacher K6	**44**	**M**	**15**	**No**
Head K7	**65**	**M**	**26**	**No**

The sample was comprised of 7 key informants, 6 teachers and one school head. Amongst them there were four 4 males, three teachers and the head and three female teachers to ensure gender balance. Three teachers had an age range of 25-34 years and a working experience of 0-5 years. The school head was in the age range of 50+ years and had the working experience of 20+ years. The other three teachers were in the age range of 34-44 years and two teachers had working experience of 11-15 years and one has working experience of 6-10 years. All the respondents managed to complete the interview session.

4.3 HOW VIRTUAL LEARNING WAS CONDUCTED AT CRAIGIE-LEA SECONDARY DURING THE COVID-19

4.3.1 WHATSAPP AND EMAIL

As a result of lockdown all teachers reported that they could not reach out children and they had to do away with the traditional teaching method and find out alternative methods. However, out of six teachers only two teaches managed to implement modern online teaching methods despite some challenges they encountered. K2 and K1 managed to implement virtual learning as they were using email and whatsapp .

K1

> during the lockdown I was staying at Harare but I was using whatsapp for lessons, I formed a whatsapp group for each and every class and I would cover a topic in two days so I cannot complain about virtual learning., for assignments and test learners would submit their assignments on email and I would mark them in the comfort of my home.

K2 also manageg to use ICT during the pandemic, his response was as follows

> During the pandemici would use whatsapp for both lessons and submision of assignments.

Learners reported to had no choice on the teaching method, however for reading material internet was the library. This is shown by the following responses from L1 and L5

> The choice of the platform was for the teacher, we used both whatsapp and email since our teachers needed different things. L1

> reading material was not a problem there are plenty of books and journals on the internet. I could just download my books on the the internet and its much easier than going to the library and carrying more than ten books, what if I misplace them L5

Teachers reported that whatsapp was effective because their subjects require little or no illustrations and drawings required in their subjects. They added that they also managed to reach learners because they were in towns for the entire lockdown period so network and power supply was not much of a challenge. These findings are inline with the findings by Zinyemba, et al. (2021) who found out that whatsapp and email were the most popular online teaching and learning methods adapted during COVID-19. These teachers said that whatsapp proved to be cheap and effective that other methods considering the situation of the learners.

Learners reported that they had no choice on learning method rather they had to follow the decision of their teachers. They had to use whatsaapp for learning and submitting their assignments. However out of twelve interviewed learners, only 3 managed to attend all lessons and these three were not at their rural homes during the lockdown they were at their relative's residence for the entire lockdown. The other three attended halve of the lessons, and six did not attend at all. For research and reading those who attended lessons they were relying on internet where they were downloading the pdfs.

4.4 THE BENEFITS OF VIRTUAL LEANING AT CRAIGIE-LEA SECONDARY SCHOOL DURING THE COVID-19 PANDEMIC

Despite that very few participants managed to engage in virtual learning, virtual learning was seen as having some benefits in education especially during the times of disaster. the benefits mentioned include flexibility, cost effective, increased access to information

4.4.1 FLEXIBILITY

Virtual learning was credited for greater flexibility in relation to when and where to access latest information, encourage independent learning, collaborative learning and easy preparation of teaching and learning materials. The issue of flexibility can be buttressed by the following statement by one of the key informants:

> using virtual teaching I could conduct my lessons after 8:00pm when everyone would be free and since network is more effective from this time onwards, this allowed me to perform other duties during the day which I could not perform using the traditional classroom teaching method.(K2)

Learner also supported the issue of flexibility arguing that

> the only thing I liked about the lock down is that I travelled to town and managed to continue with my studies whilst in town(L3)

The other learner (L10) supported,

> it really boring when the opening days are approaching and knowing that I am now returning to home to go to school, virtual learning is much better

virtual learning was seen as beneficial by both learners and teachers because it allowed them to continue with education during the hard times due to its flexibility. It was seen as flexible in terms of when and at what time to have the lesson despite space, it break time and spacial barriers to education. The above responds from participant shows that both learners and teachers enjoyed virtual learning. In supporting the flexibility of ICT Sarker (2012) said ICTs have the capability to go beyond time and space. Thus they can be used anywhere and any time. The view of learners are in line with Liang and Chen (2012) who argue that, educators can access learning content many different times, review the learning resources and teachers can also monitor their progress sending and receiving their assignments from children.

4.4.2 VIRTUAL LEARNING IS COST-EFFECTIVE

Virtual learning was also seen as cheap as than the traditional classroom method. Both key informants and learners agreed that virtual learning reduces labour and costs. This can be shown by responds from these two participants. However, some learners especially those who failed to be part and parcel of virtual learning reported that it is expenses since it requires expensive gagets and data bundle. Their views are going to be discussed on the section of challenges.

K1

> laptop and cellphone is all you needed in virtual learning, with these two, I can have all the work I need to teach from form one to form four, this is unlike traditional teaching method where I have to carry so many scheme books, textbooks , pen chalks and other things we need for a lesson

L5

> what I liked about virtual learning is that I could carry the whole library with my tablet and no more writing notes, virtual learning is superb

ICT tools which used on virtual learning enable learners to download information on the internet and can have all the books of ten subject in a tablet and they can also write their notes in their cellphones. These findings are in line with data found by Ngesi, et, al. (2018), who found out that , learners in most developing countries lack financial resources to procure textbooks and they rely on mobile cellphones which allow them to download content. It also cheap to the educators because it promotes self-learning, learners will not have to rely on teachers. Bajaj and Sharma are of the view that it provides a wide range of materials for the learners that covers almost all topics thereby promoting independent and collaborative learning. Teacher will not be the only source of information, learners are now have to research and be contributing members during the online session.

4.4.3 INCREASES ACCESS TO INFORMATION

ICT was credited for increasing access to information both to the learners and teachers. Learners were able to access massive information on the internet. They were also able to get information from other children from group A schools. Teachers supported this view arguing that due to the new curriculum which was introduced in 2017 they are few text books which provide the necessary information, internet provided them with huge source of information which suits the new curriculum

K1 was of of the following view:

> internet is a rich source of information we can get current information on the learners syllabus and I could easily share PDFs with learners through whatsapp,this way is cheap than hard copies which are very few at our school"

One of the learners also said;

> it was very easy to write assignment because I could get adequate information from the internet, and also I could receive some rich sources of information from the friends at group A schools on whatsapp (L10)

The data from the respondents is supported by Sarkar (2012) who posit that ICTS used on virtual learning have the propensity to increase access to education information. Sarker (2012) also views ICT as a key to access reserved educational capital, with the advent of the internet and the World Wide Web, it is now possible to gain access to an unlimited amount of data

and educational materials. Data in almost any subject and diverse forms of media can be accessed from any place at different times of the day and by an unrestricted number of individuals. Khan (2012) concurs that ICTs enable access to the opinions of professionals, experts and researchers all over the world and allows one to be in direct communication with them.

4.5 THE CHALLENGES FACED BY TEACHERS AND LEARNERS DUE TO VIRTUAL LEARNING

The following discussion provides a list of all challenges that were mentioned during the interviews or noticed during the observations. тhese are unavailability of ICT tools, poor internet connectivity, unreliability of power supply, technophobia, and ICT Illiteracy.

4.5. 1 UNAVAILABILITY OF ICT TOOLS

Unavailability of ICT tools was a major challenge to both teachers and learners. Six learners did not attend all the lessons because of failure to purchase a tablet or a laptop. The teachers and other learners who implemented virtual learning were using personal cell phones

One learner was quoted to have said,

> I only attended half of the lessons because we were sharing a cell phone with my young brother in grade seven and my mother, so at times I had to miss some lessons (L12)

In support, two of the key informants remarked that:

> I had to stop these lessons because my cellphone was being overloaded with the groups and assignments which were sent by the learners, online leaning need a laptop which has more space.(K1)

> I could not even force all the teachers to implement this virtual learning thing because the school failed to provide them with required ICT tools yet ICT tools are the spinal cord of this learning method."(K7)

The above information shows that unavailability of ICT tools was a major challenge at Craigie-lea Secondary school. The required ICT tools were above the capacity of the school and the parents. The findings concurs with those of Zinyemba, et. al, (2021) who found that most educators in government schools have basic mobile phones which could not access electronic media platforms like WhatsApp; Twitter; YouTube; Facebook; Instagram and Facebook and learners could not even owns one. Sibanda et al (2016) concurs with Zinyemba

et, al. (2021) that unavailability of computers, oldness or slothfulness of ICT systems and scarcity of educational software in the school were barriers to the successful application of ICT in teaching and learning at a High school in Kwekwe at which they conducted their research. Al-alwani (2005) found that having little or no access at all to the internet during the school day and lack of hardware were hindering the progress of technology application in Saudi schools. This is so because we can not talk of virtual leaning without ICT tools, ICT and Network are the key drivers of virtual learning.

4.5.2 POOR INTERNET CONNECTIVITY

Poor internet connectivity is another challenge bedevilling effective application of virtual teaching and learning method at Craigie-lea. Two teachers who practiced online teaching both complained about poor network even if they were to buy WI-FI bundle the WI-FI was slow hence they were unable to access the internet for teaching materials like online text books, images and videos. They also said that poor internet connectivity was limiting them to utilise modern teaching methods.

This is supported by the following interview pick out:

K1

> Poor or weak network slows the communication, and delays the lesson and sometimes it will take a long time to download assignments and documents and uploading documents was difficult

K2

> Due to lack of internet connectivity we were forced to have our lessons from 8:00pm this will result in conflicts with my husband thinking that I am having some businesses behind his back, at times I could receive the responses of the morning lessons at night and learners would tell me that they send them in the morning

Learners also complained about poor network

L 7:

> Network is a great challenging factor this side, at times I could submit my assignment on the email and the following day the teacher said I did not see your assignment, you did not do my work

L 9,

> virtual learning caused many problem and conflicts at our home due to poor network, for me to attend a lesson I had to find a high place which might be fifty hundred meters away from home, my mother started to think that I am now engaged in love affairs

> especially those lessons which were conducted at night, that is why I attended half of the lessons

Thus Poor internet connectivity emerged as one of the major obstacle towards effective use of ICT in teaching and learning. Both teachers and learners complained that their lessons were strongly affected by poor network connectivity. Learners indicated that the challenge of poor network connectivity did not only tormented teachers but also learners who need deep internet researches for the assignments and attending online lessons. Students complained about poor internet. They said they are unable to research their assignments in time due to poor internet connectivity. The findings here confirm Gomba's (2016) study that found that lack of access to internet is a major blow to modern teaching and learning methods. Varron (2011) cited in Madonga et al (2013) opines that internet is an information gold field and it is newest and most powerful educational tool that makes the student freely search for educational material or useful information like online books, journals, periodicals, films and other educational materials. If this is so then it means teachers and learners who were failing to access internet were missing out in the modern learning style. Hence poor network is serious challenge that needs urgent attention

4.5.3 UNRELIABILITY OF POWER SUPPLY

Teachers interviewed by the researcher pointed power cuts as one of the challenge limiting effective utilisation of electronic gadgets in teaching. One of the teachers complained that;

K1

> Load shedding is the most disruptive impeding factor that obstructed a smooth delivery of lesson using ICT.

The other said.

> We are always affected by load shedding because we spend most of the working hours without electricity and usually come back in the evening. (3)

L12 who was at her rural home for the entire lock down commented that,

> as for me I can not talk of load shedding because I do not know what is it, we rely on solar energy, and during the winter and rain season we can spend the rest of the week without sun and it means no lesson that week. (L12)

Lack of electricity did not only affect teachers but also learners who needed power to charge their gadgets. The students attributed electricity unavailability was due to load shedding by

the government. The students explained that electricity was sometimes available during odd hours when they could no longer able to go to the network points. These findings here are in consistence with those of Konyana and Konyana (2013) who found that lack of electricity greatly hinders the implentation of ICT in Zimbabwean schools. The findings also confirm Sibanda et al (2016) study that found that schools should be electrified for effective application of ICT in teaching and learning.

4.5.4 TECHNOPHOBIA

Technophobia is another inhibiting factor to the practice and use of ICT in teaching and learning. Technophobia means fear, hatred and reluctance to adapt to new technology. Although two teachers said that they enjoyed teaching on whatsapp and email, four teachers expressed that they are not comfortable to use any ICT platform in teaching. They claim that they are too old to use the new technology.

> I will never attempt to use ICT in teaching I once failed to send an email to the class and the student laughed at me and my child who is in same class with them, since then I told myself that ICT is for young teachers who are just coming from university" **(K5)**

The other key informant said:

> "the use of ICT is difficult to us, ICT just need young teachers who just came from collage." (K7*)*

The issue of technophobia is also in support of Bingimlas, (2009) and Mathevula and Uwizeyimana (2014) who found that lack of confidence and fear of new technology hinder effective utilisation of ICT. Many teachers are afraid of using new technology because of inadequate skills. They are afraid of embarrassing themselves in front of learners. Most educators went to tertiary education before the learning of computer science was compulsory and their assignments were hand written, so it is difficult to teach an old dog new skills. The abrupt coming of virtual learning caught them unprepared and they were not ready to implement the virtual learning. There was need to train teachers first before the implementation of virtual learning.

4.5.5 LACK OF TECHNOLOGICAL SKILLS TO USE ICT EFFECTIVELY.

Four out of six teachers confessed that they do not have competence skills to use ICT into their daily teaching practices thus most of the teachers did not practice virtual learning during the pandemic. On this issue TA and TC had this to say

K5:

> I have a challenge in using the I.C.T platforms needed today. I do not know how to use some of the tools like emails. The time we went to college I.C.T was not a major concern. Starting to learn some of these things I feel like it is a burden to me since am about to retire.

K3

> Yes I can send use whatsapp and also in some whatsapp groups communicating with others but I need training on creating email address, whatsapp group and others also talk of google class which I do not even know.

L7

> I can do everything with a computer such as typing, Skype, facebook, art, but I usually get confused when researching because the internet provides huge quantity of information and I spend much time trying to figure out which page is relevant.*"*

The findings here are in consistence with those of Sibanda et al (2016) who reported ICT skills deficiency as the main barrier to ICT integration. This resonates well with a study by Mandida (2015) which found that lack of technical competence results in a negative attitude towards the integration of ICT into teaching and learning. This is inline with the TAM which asserts that the adoption of a new technology is determined by individual perceptions and attitudes towards that technology. Zinyemba et, al. (2021) also found out that most learners and educators found virtual learning to be a challenge since both were not prepared for virtual learning and they had nothing to expect and using some learning platforms was a challenge and it took time for educators to to familiarise themselves with these learning platforms.

However, this was different with learners, when asked whether they have skills to use different ICT platforms, learners proudly said that they are experts in using various ICT platforms and they boasted that they can even teach their teachers. However they confessed that their main challenge is that internet provides them with huge amount of information, hence they are unable to select relevant information. The findings here are in part in support of Munyati (2006) who attributed poor implementation of ICT in teaching to lack of skills.

The student and teachers in this study admitted that they lack adequate skills to effectively utilise ICT in teaching and learning. This is also supported by Khan (2012) who said lack of knowledge regarding the use of ICT and lack of skill on ICT tools and software have limited the use of ICT tools in teaching and learning.

4.6 WHAT CAN BE DONE TO SOLVE CHALLENGES FACED BY LEARNERS AND TEACHERS AT CRAIGIE-LEA SECONDARY SCHOOL

All respondents hold similar views on the solutions on what can be done to solve the challenges faced for future disasters. These include workshops so that educators can be ICT literate, government should help on data bundle, provision of ICT tools which best suits rural situations and rural electrification. Some learners went as far as proposing for the aid of tablets so that they can not be left out.

4.6.1 TRAINING ON HOW TO USE ICT

Three out of six educators proposed that for effective implementation of virtual learning there should be training on how to use different ICT platforms. The reason was that, most of them went to the collage and university when learning of ICT was optional. This can be shown by the following statement by the Key Informant H:

> there ministry of education should organises workshops for teachers because most of us we went to collage were we were writing assignments and projects with a pen and submit it hand written, it took time for us to understand and know how to type and again age is catching up with us so we need time **(K7)**

This is inline with Mandina (2015) in his research, he suggest that teachers should be thoroughly inducted on how to operate the machines before they could utilize them in their lessons. Ndawi et al (2013) supported the above view when he purports that it is a well known fact that professional teacher development is a key to successful integration of ICT in the teaching and learning process. Ndawi et al (2013) further says that teachers should not be ignored if there is need for successful use of technology in and teaching and learning. In order to improve the use of skills of teachers, they should be developed professionally. If the educators trained they will then transform the knowledge to the learners.

4.6.2 ASSISTANCE ON DATA BUNDLE

All respondents who participated in virtual learning and teaching mentioned the high cost of data bundle as a challenging factor in the use of ICT in teaching and learning. They proposed that the government should collaborate with network providers so that they can consider us in rural areas.

L2

> virtual learning was a double tragedy to me, I missed half of the lessons because I had no cellphone later on after managed to get the one, data bundle became a challenge, therefore I suggest that the government should help us on the issue of data bundle

One of the key informant said:

> the reason why I had to have four hours of teaching only was the cost of data bundle, the bundles were too expensive and this is also the reason why I chose whatsapp platform its bit cheaper than google class and other methods. (K2)

Government intervention was found by many researcher who conducted researches related to this study as a main solution to the challenge of expensive bundle. For example, Mandoga et al (2013) in their research recommended a multi sectoral approach involving government, private sector, parastatals and other stake holders to ensure that the education sector benefits from the new technology. Zinyemba et al., (2021) also found that the high cost of data bundle was a main challenge in governmental schools than non-governmental schools. The problem faced both the teachers and learners, therefore the government should be hands on with the schools so as to solve the challenge. One of the respondents in Zinyemba et, al (2021) research has this to say, it was difficult to find money for data bundle whilst I could not afford common cooking oil.

4.6.3 ALTERNATIVE POWER SUPPLY

The respondents recommended that the problem of power should be solved in the entire community since virtual learning was conducted whilst learners were at their residents. They recommended that the rural electrification program should be extended to their community.

One of the key informant had this to say:

> electricity is a major challenge in this community,
> therefore any intervention which can be done should cover

> the whole community since the challenge is not affecting school only and for virtual learning to be successful both teacher and learner should have power.**(K5)**

One learner had to say this:

> Installation of solar panel is the best because it slightly affected with environmental conditions than electricity, once it is rain season we rarely have electricity, **(L4)**

The above findings are in agreement with those of Mandoga et al (2013), who in their research recommended that MoESAC should work with the Zimbabwe Electricity Supply Authority (Z.E.S.A), Rural Electrification Agency (R.E.A) and TelOne (a telecommunication company) to expedite connection of electrical power supply to some schools as well as upgrading telecommunication infrastructure respectively. Power was found vital for effective implementation of virtual learning because all ICT tools big or small relies on electrical energy. In their research, Sibanda et al (2016) recommended that; alternative sources of power such as solar energy and generators be put in place to alleviate the problem of electrical power cuts, ICTs be integrated into the current curricula, government and stakeholders provide funds for procurement and maintenance of ICTs in schools, technical support be provided in schools to ensure that help for those in need is always available and facilities are kept in their expected operational status

4.6.4 PROVISION OF ICT TOOLS

In this research half of respondents failed to partake in the virtual learning due to failure to access ICT tools necessary for virtual learning. Learners when asked why they did not attend online lessons had the following to say:

> . I am on BEAM program, my fees is paid by the program so having a cell phone is a day dreaming since I live with my grandparents, all my hope is on government..**(L6)**

The other learner also said

> my cell phone cannot even have whatsapp, is only for text messages and calls,the government and school should help us **(L4)**

The other learner also suggested the provision of ICT,

> Owning a cellphone is a challenge, at our home we rely on our neighbours for communication, (L11)

The key informants also hold the same view with the learners and this is shown by the following statement by one key informant:

> virtual learning needs a big cellphone or laptop and it is not my duty as a teacher to find the one, therefore, I propose that the government and relevant stakeholders should intervene and help us with ICT tools relevant for online leaning.(K1)

It was found out that six learners failed to participate in virtual learning because of failure to purchase ICT tools, also teachers were complaining about using cellphones. In order to solve this challenge they all recommend that the government should help them with computers. The head mentioned that the available desktops cannot be carried day in day out since the school does not have computer lab, there is need of portable computers, and also the desk tops are very, they cannot cater for the whole school and teachers.This is in line with the views of Ngwu (2014) who revealed a low extent utilization of ICT resources and related technologies in the schools. His research recommended provision of funds for procurement and maintenance of ICT resources, ensuring existence of functional computer laboratories, consistent power supplies in schools and provision of in- house training for teachers so that they keep in touch with the developments in ICT and related technologies.

4.7 SUMMARY OF THE CHAPTER

The shift to virtual learning was very difficulty and this was shown by a number of teachers and learners who successfully managed to use virtual learning. Virtual learning was associated with so many challenges which include, lCT illiteracy, lack of resources, poor network , shortage of power as well as high cost of data bundles. The possible solutions was suggested and they requires different stakeholders to intervene so as to better the situation of both learners and educators at Craigie-lea. This solutions include the extension of rural electrification program, reduction of the cost of data bundle as well as the aid of ICT tools. The next chapter summarises the research project, give the conclusions as well as the recommendations

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS OF THE STUDY

5.0 INTRODUCTION

’This chapter presents the summary, conclusions and recommendations of the study. The first section summarises the key findings on the study objectives. This is followed by conclusions based on the key findings of the study. The next section presents the recommendations of the study guided by the conclusions. A brief summary concludes the chapter.

5.1 SUMMARY OF THE STUDY

The summary of the study is discussed based on the key objectives of the research, which are how virtual learning was done at Craigie-lea, what are the benefits, challenges and recommendations

5.1.2 HOW VIRTUAL LEARNING WAS DONE AT CRAIGIE-LEA SECONDARY

The research discovered whatsapp and email to be the dormant virtual learning method at Craigie Secondary. Both teachers and learners found whatsapp; and email to be best virtual method to use for lessons and assessment. Internet was the only source of information both relied on during the pandemic

5.1.3. BENEFITS OF VIRTUAL LEARNING AT CRAIGIE-LEA

Very few respondents managed to adopt and participate in virtual leaning, so very few benefits were discovered from the research. These are Flexibility interms of when, where and at what time to have the lessons. The other advantage is that virtual learning is bit cheap since the learners do not have to buy textbooks which are a challenge at the school and exercise book rather they just have to buy one cellphone and data bundle. Lastly, it was credited for supporting collaborative leaning

5.1.4 CHALLENGES ENCOUNTERED IN TRYING TO ADOPT VIRTUAL LEARNING

So many challenges were discussed and these include lack of ICT tools, poor network, lack of constant source of power supply, ICT illiteracy to both learners and teachers as well as technophobia

5.2.5 STRATEGIES WHICH CAN BE DONE TO SOLVE THE MENTIONED PROBLEMS

So many strategies which can enhance virtual learning were proposed during the research these include alternative power supply like solar energy, provision of ICT, collaborating with other partners to ensure provision of cheap data bundle and improvement of infrastructure

5.5 RECOMMENDATIONS OF THE STUDY

Based on the research findings and conclusions, the following recommendations are suggested to overcome challenges faced in the use of ICT the teaching and learning at Carigie-lea

5.5.1 ON HOW VIRTUAL LEARNING CAN BE DONE AT THE SCHOOL

It is recommended that, there is need for use of wide range of methods so that everyone learning differences can be catered for. Need to implement method such as google class and zoom so that those who learn visually can be catered for.

5.2 ON THE CHALLENGES

5.2.1 WORKSHOPS TO THE EDUCATORS

The study recommends that there is need to train teachers on technological skills, particularly the use of cellphones and computers for lesson delivery. This will enable them to become ICT proficient in using ICT to send and facilitate lessons virtually.The study also recommends the Ministry Of Primary and Secondary Education to consider learners from the rural schools whenever they want to come with educational policies, since this virtual

learning has so many disadvantages than advantages to the rural schools and so many learners were left out.

5.2.2 GOVERNMENT INTEVENTION ON NETWORK CHALLENGES AND POWER CHALLENGES

In light of poor network, this study encourages the government to intervene with other stakeholders and ensure that network has improved in rural areas. To reduce the effect of power cuts the study encourages the government to extent the rural electrification program to Murewa Rural District.

5.5.3 TO DEAL AWAY WITH TECHNOPHOBIA

To deal away with technophobia teachers are encouraged to share ideas on how to successfully use ICT in the classroom. They should be sensitised on the benefits of using ICT so that they will be motivated to use ICT without fear.

5.3 RECOMMENDATIONS TO THE SOCIAL WORKERS

Social workers are encouraged to conduct research on the newly implemented policies to see if the policy is not causes inequality between social groups so that they can advocate for other who cannot be heard this helps to solve the root problems that are being faced in the education sector. The study also recommends social workers to work with the rural schools and link them with required resources so as to better their situation. Social Workers should initiate policy change through lobbying and advocacy against discriminatory policies in education. They also need to engage with development partners to invest in the improving and ensure that there are equipments in community information hubs that are already in existence within each community in Zimbabwe.

5.3 RECOMMENDED AREAS FOR FURTHER RESEARCH

What was also clear was that there was more research that was still to be done to answer other research questions as well those partly answered in this study. For example investigating the disadvantages faced by rural secondary schools compared to other schools in urban areas. This issue

was only addressed from the point of view of those participants implementing the virtual learning in a rural setting. By gathering data from urban schools, more comprehensive comparisons could have been made using findings from the rural school studied.

There also need for a further research to understand whether virtual learning affected boys and girls differently or the suffered the same fat. Women seem to be bit disadvantaged than men, so there is a need for research on this area

5.4 CHAPTER SUMMARY

The study managed to summarise the project objectives, and conclusions as well as recommendations. It also managed to show that there is room for further research regarding the topic.

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APPENDICES

APPENDIX 1

INDEPTH INTERVIEW GUIDE FOR KEY INFORMANTS (TEACHERS AND HEAD)

This interview guide was designed to gather data from the school head and teachers on the virtual learning methods which were used during COVID-19 pandemic and the benefits brought by virtual learning at Craigie-lea Secondary School. It was also designed to collect information on the problems faced at Craigie-lea in trying to implement the new teaching method and possible solutions to improve virtual learning at Craigie-lea Secondary School.

SECTION A: DEMOGRAPHIC DETAILS

1. SEX…….
2. AGE……
3. WORK EXPERIENCE…….
4. ROLE AT SCHOOL

SECTION B: RESEARCH QUESTIONS

1. Tell me about the teaching methods you used before COVID-19
   Prompts
   What were the advantages of these methods.
   How effective were these methods
2. What teaching methods did you adopt during COVID-19? WHY?
   Prompts
   Where these methods effective
   What was the attendance rate of learners
3. Tell me how you have used the teaching methods ?

Prompts

Which ICT tools were you using?

How effective were these tools

4. What challenges have you experienced with the teaching methods you adopted during COVID-19?

Prompts

How did you cope with these challenges?

5. What do you think should be done to address the challenges you mentioned?

Prompts

APPENDIX 2

INTERVIEW GUIDE FOR LEARNERS

This interview guide was designed to gather data from the learners at Craigie-lea Secondary School on the methods, challenges and benefits they got from virtual learning which was introduced during the COVID-19. It was also designed to collect information on the possible solutions to the challenges experienced

SECTION A: DEMOGRAPHIC DETAILS FOR LEARNERS

1. AGE…….

2. SEX…….

3. CURRENT CLASS……

SECTION B: RESEARCH QUESTIONS

1 Tell me about the teaching methods you used before COVID-19

2 What teaching methods did you adopt during COVID-19?

Prompts

Why?

3 Tell me how you have used the teaching methods

Prompts

Were you able to use these methods effectively

4 What challenges have you experienced with the teaching methods you adopted during COVID-19?

Prompts

How did you cope with these challenges

5 What do you think should be done to address the challenges you mentioned?

Prompts

What do you think is necessary to that?

APPENDIX 3

APPROVAL FORM

DEPARTMENT OF SOCIAL WORK

P. Bag 1020
BINDURA, Zimbabwe

Tel: 263 - 71 – 7531-6, 7621-4

Fax: 263 – 71 – 7534

socialwork@buse.ac.zw

BINDURA UNIVERSITY OF SCIENCE EDUCATION

Date .....

TO WHOM IT MAY CONCERN

Dear Sir/Madam

REQUEST TO UNDER TAKE RESEARCH PROJECT IN YOUR ORGANISATION

This serves to advise that... Precious Kanyimo ..... Registration No.

B.1850715 ..... is a **BACHELOR OF SCIENCE HONOURS**

DEGREE IN SOCIAL WORK student at Bindura University of Science Education who is conducting a research project.

May you please assist the student to access data relevant to the study and where possible conduct interviews as part of the data collection process.

Yours faithfully

15 DEC 2021

THE HEADMASTER
CRAIGIE LEA SECONDARY SCHOO
07 MAR 2022
P.O. BOX 155 MACHEKE
SIGN.

Dr. M. Zembere
A/CHAIRPERSON – DEPARTMENT OF SOCIAL WORK

APPENDIX 4

CONSENT FORM

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF SOCIAL SCIENCE AND HUMANITIES
DEPARTMENT OF SOCIAL WORK

INTRODUCTION

My name is Precious Kanyimo. I am a part four student at Bindura University of Science Education studying towards Bachelor of Science Honours Degree in Social Work. It is within the requirements of the study that every student must undertake an academic research project on a selected topic in partial fulfilment of the degree. This form seeks for your consent to participate in my study.

TITLE OF THE STUDY

An Assessment of virtual learning and COVID-19 in Zimbabwe rural schools. A case study of Craigie-lea Secondary School in Murewa Rural District.

AIM OF THE STUDY

PROCEDURES

I understand that if I agree to participate in this study, I will be asked questions about virtual learning at Craigie-lea.

I also understand that participation is voluntary and I can leave the interview when ever I feel like to

I understand that this information is going to be used and revealed to Bindura University of Science Education

BENEFITS

I also understand that my participation in this study is voluntary and therefore no remuneration will be awarded or any direct benefits in cash or kind.

The findings of this research will used for the benefit of our school

RIGHTS OF PARTICIPANTS

I understand my rights to confidentiality, voluntary participation and the right to decline to

answer any question that may bring me discomfort or to withdraw from the study at any moment. I take note that the study findings will be used for academic purposes and that a copy of the study report will be availed to Craigie-lea Secondary School and Bindura University library.

I have read and understood what the study is about. I voluntarily agree to participate in this study

SIGNATURE OF PARTICIPANT……DATE……

SIGNATURE OF ENUMERATOR ……..DATE……