Bindura University of Science Education

RESEARCH PROJECT BY

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TITTLE:

Assessing the impacts of shifting to new online education system in the wake of Covid-19 Pandemic on rural learners. The case of Masvingo District.

RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE BACHELOR OF SCIENCE HONOURS DEGREE IN DISASTER MANAGEMENT.
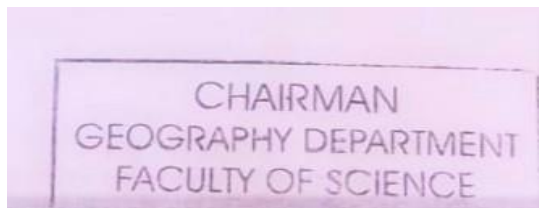
DEDICATION

This piece is dedicated to my wonderful mother, Mrs. G. Tombido, and my father, Mr. E. Tombido. You supported me while I was attending university. I appreciate your prayers and your unwavering support. You are the best, and your support is the best thing I have. The path was paved with thrones, so it was not simple, but the Lord has brought us to this place. This commitment is also made to my brothers Prosper, Fortune, and Godfrey, who have given me the strength and motivation to keep going and finish my studies. You've inspired me and given me unending encouragement to go this far.

APPROVAL FORM

This confirm that **Paidamoyo Tombido** in Disaster Management Sciences in the Department of Disaster Risk Reduction at Bindura University of Science Education and is required to do a Research Project as part of her Degree Programme. The student is required to gather data for her project from various sources including your Institution. This letter therefore serves to kindly ask you to assist the above mentioned student with information relating to her project entitled:

Assessing the impacts of shifting to new online education system in the wake of Covid-19 Pandemic on rural learners. The case of Masvingo District.

Thank you.

CHAIRMAN
GEOGRAPHY DEPARTMENT
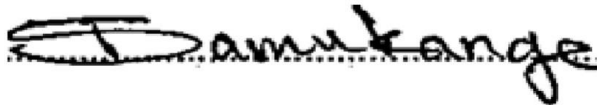FACULTY OF SCIENCE

…………………..

DR.E. MAVHURA

CHAIRMAN

DECLARATION

I, Paidamoyo Tombido, thus declare that, with the exception of any quotations or references that have been credited to their sources, everything of the work included in this dissertation is entirely original with me.

Supervisor's Signature

Samukange

Date 30/05/2024

ACKNOWLEDGEMENTS

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ABSTRACT

The nationwide Covid-19 pandemic has significantly impacted schooling across the nation, causing disruptions in the delivery of instruction, particularly in rural areas. Approximately 94% of students globally were impacted by the pandemic. Schools were closed for a while in a lot of countries. Since e-learning became popular, teaching has undergone a significant transformation, with instruction now taking place virtually and through digital platforms. This essay examines the effects of online learning during the COVID-19 pandemic, including lack of access to technology

and the internet, scarce resources for adjusting to online learning, socioeconomic inequality, a lack of support and guidance for education, and distractions from the home environment, to name a few. The purpose of this study is to evaluate particular obstacles that rural students have while attempting to obtain high-quality education, evaluate how students view and approach online learning. To gather data from the students, the study included a variety of qualitative and quantitative data collection techniques. The majority of rural learners, according to the results, had difficulties with their internet connections, diversions in their homes, and a lack of necessary resources, including cellphones. Thus, the purpose of this research is to offer information that can enhance education policy and resource distribution for rural schools in order to raise educational standards.

ACRONYMS

IC   - Internet connection

ZBC   - Zimbabwe Broadcasting Co-operation

DVD   - Digital Versatile Disc

DSI   - District School Inspector

CAMPFED- Campaign for Female Education

IT   - Information Technology

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CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION.

Global education systems are greatly impacted by the coronavirus (COVID-19), a pandemic virus (Tadesse & Muluye 2020). The coronavirus pandemic outbreak has been acknowledged by UNESCO (The United Nations Educational, Scientific, and Cultural Organization) as having an impact on the global education system. Throughout human history, there have been numerous pandemics, and each one has had an impact on various aspects of life, including global prosperity, educational possibilities, and life expectancy (Editors, 2020). The World Health Organization (WHO) designated the coronavirus (COVID-19) to be a pandemic on March 11, 2020, after it had spread to 114 countries in just three months and infected over 118,000 individuals globally. Thus, the background of the study, the problem statement, the rationale for the investigation, the relevance of the study, the goals of the research, the research questions, the limitations of the study, the delimitation of the study, and the definition of important terminology are the main topics of this chapter.

1.2 BACKGROUND TO THE STUDY

The severe acute respiratory syndrome Coronavirus 2 was the cause of the Covid-19 pandemic, a global health emergency (SARS-CoV-2). The outbreak was initially discovered in Wuhan, China's Hubei region, in December 2019 (Ulukol, B. 2022). Every element of society has been profoundly impacted by the Covid-19 pandemic, including education. Many schools were compelled to transition to online learning as a result of closure, which brought with it special opportunities as well as obstacles. The effects of online learning on metropolitan areas have been extensively studied, but the effects on rural schools—which frequently have different resources and needs have received less attention.

1.3 STATEMENT OF THE PROBLEM

For rural students, the COVID-19 Pandemic has presented substantial obstacles, exacerbating existing educational disparities and hindering their access to quality education. This make it difficult to develop effective strategies to address the challenges faced by rural schools which can negatively impact rural education outcomes hence statement of the problem aims to highlight the specific issues faced by rural learners during the pandemic.

<u>Aim</u>

The study's objective is to evaluate the difficulties faced by rural students in Masvingo District during the Covid-19 pandemic.

1.4 <u>OBJECTIVES OF THE STUDY</u>

The objectives of the study are to:

(a) To investigate the impacts of new online education system
(b) Assess specific challenges faced by rural learners in accessing quality education through online platforms
(c) Assess student perception and attitude towards online learning

1.4 <u>RESEARCH QUESTIONS</u>

The following inquiries served as a guide for the study:

(a) What challenges did rural schools in Masvingo face during the Covid-19 pandemic?
(b) How can these challenges be addressed to ensure equitable access to quality education?
(c) How do students feel about online learning generally and in comparison to in-person learning environments? What attitudes and beliefs do they have?

1.6 <u>SIGNIFICANCE OF THE STUDY</u>

There are several reasons why the study evaluating the effects of the new online education system is important. It's critical to recognize the profound effects of the Covid-19 pandemic on education around the globe and how this has impacted rural schools in particular. By understanding these specific challenges the researcher can develop more effective strategies to support schools in the future. Understanding the experiences of rural schools can also inform our understanding of how to improve education outcomes for students in rural areas more broadly.

1.7 ASSUMPTIONS

The researcher assumed the following:

- Challenges faced by rural schools during the pandemic are unique and different from those faced by urban schools.
- The participants in the study will be honest and truthful in their responses
- The study's conclusions will not only apply to the particular schools it examined, but also to other rural institutions.
- The research methods will be effective in collecting accurate and reliable data

1.8 DELIMITATIONS

- The study will limit itself to a specific geographical area
- It is limited to a specific age group
- The findings of the study may not be applicable to other counties , or to urban schools in other parts of Zimbabwe

1.9 LIMITATIONS

- The sample size was quite limited, which limits how broadly the researcher's conclusions can be applied.
- The study relied on a single self-reported set of data resulted in response bias and inaccurate data.
- Limited time and resources to collect all the necessary data as the researcher had other tasks such as demands from educational requests which had to be well-balanced with research commitments.

1.9.1 **Definition of key terms**:

The SARS-CoV-2 virus is the cause of Covid-19, a respiratory illness. Fever, coughing, and dyspnea are the most typical symptoms. It is believed that respiratory droplets released when an infected individual coughs or sneezes are one of the main ways the illness spreads between people. Additionally, it can propagate via contaminated surfaces (Sansa, 2020).

A pandemic is a global epidemic that impacts a great number of people and has a major effect on the economy, public health, and society at large (Grennan, D 2019).

Online learning is the process of teaching and learning through using the internet and other digital technologies. It typically involve using platforms like zoom to provide materials and assess students (Bakia, M 2019).

1.10 SUMMARY

The purpose of this study, as stated in this chapter, is to better understand the particular difficulties that rural schools encountered during the Covid-19 outbreak in order to guide decisions about future policies and resources. The study's background, problem statement, research aims, research questions, significance, delimitations, limitations, assumptions, and term definitions were all areas of emphasis for the researcher. Literature review is the main topic of the following chapter.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

The chapter evaluates the research literature that is currently available while keeping in mind the goals that are currently stated. According to Álvarez-Bornstein, B., & Montesi, M. (2020), evaluating the literature entails acknowledging related studies carried out by other researchers in order to contextualize the findings. Worldwide, the Covid-19 pandemic has completely upended the old educational structure, requiring educational institutions to quickly adjust and switch to online learning environments. Although this change has been difficult for all children, students who attend rural schools will be most affected. This study aims to evaluate the effects of rural learners' transition to a new online education system in the wake of the Covid-19 pandemic. Through an analysis of the obstacles, advantages, and possible remedies, we can acquire a thorough comprehension of the effects of this transition on rural students.

2.1.1 Social learning theory

The social learning theory, put forward by Albert Bandura, explains how Covid-19 has impacted education. This theory holds that Covid-19 has hindered communication and teamwork in the classroom, which has a detrimental effect on learning and student engagement (Gopinathan et al., 2022). Along with the teacher, students in collaborative learning environments also learn from each other. Student's converse, share ideas, ask questions, and work in groups to complete projects. But as distance learning has grown in popularity, these chances to meet new people have decreased. As a result, students could feel alone and become disinterested in their studies. The social learning paradigm emphasizes the importance of social interaction.

2.1.2 Disruption theory

The idea of disruption was first put forth by Clayton M. Christensen in his book from 1997. That explains one possible way in which Covid-19 epidemic impact education in schools. They assert that the pandemic's interference with the traditional paradigm has forced them to immediately adopt an online learning environment (Floris et al., 2020). The discontinuation of in-person classes compelled schools to quickly make the switch to online instruction. This unanticipated development has led to an increased need for innovation and adaptability in the educational setting.

Schools and teachers needed to quickly embrace innovative approaches to teaching and learning in order to meet the demands of their students. This adjustment has accelerated the adoption of tech-based learning environments in schools and might have significant long-term effects on education (Crawford, 2020). Education inequalities have also received attention as a result of the pandemic. In the event that certain pupils are unable to engage in remote learning due to lack the resources and technology necessary to do so. The Disruption Theory suggests that this epidemic has encouraged educators and schools to find innovative ways to solve these issues while still meeting the needs of their pupils. While there have been some challenges in rural areas when switching to online learning, there have also been opportunities for educators and institutions to reassess and develop tried-and-true methods (Dhawan, 2020).

2.1.3 **Cognitive Load Theory**

The impact of COVID-19 on schooling is attempted to be explained by the Cognitive Load Theory. According to this notion, kids may find it more difficult to absorb and retain information as a result of the pandemic's increased stress and worry. Many students now experience increased levels of stress and anxiety as a result of the instability and uncertainty generated by the COVID-19 pandemic. Students may find it more difficult to focus on their studies as a result of this additional mental strain, which could lower their marks (Zhao & Hu, 2021).

Additionally, the shift to remote and hybrid learning may increase the mental workload for pupils in addition to the pandemic's emotional effects. For instance, students might need to learn how to manage their own time and schedule, use new technologies, and adapt to learning in a more autonomous environment. Learning may become even less effective as a result of these increased demands on cognitive resources (Singh & Singh, 2021). In order to assist pupils learn as much as possible during the epidemic, teachers should be aware of how much more their students have to think about, according to the Cognitive Load Theory. By providing clear and straightforward directions, breaking complicated assignments down into manageable chunks, and minimizing distractions, teachers can assist students in managing their mental load. According to the cognitive load theory, the epidemic has caused pupils' minds to work harder, which has hampered their ability to acquire and retain information. Teachers must recognize the additional mental strain pupils are under and provide them with the support they require to manage their mental burden in order to address these issues.

2.2 CHALLENGES FACED

2.2.1 Limited access to technology and internet connectivity

One of the biggest obstacles to rural learners making the switch to online learning, according to Graves, J.M. (2021), is their restricted access to dependable internet connectivity and technology. Students are disadvantaged in many rural locations because they lack the infrastructure required to support high-speed internet. Students find it difficult to participate completely in online classes, do assignments, and access educational resources if they do not have appropriate access to devices such as laptops, tablets, or smartphones (Mackelprang, J. 2021). The existing educational disparities between rural and urban areas are made worse by the digital divide.

2.2.2 Inadequate infrastructure and resources

Rural areas often have limited educational infrastructure including schools with inadequate facilities and resources (Tadesse, S 2020). The pandemic has further strained these already limited resources making it difficult to implement necessary health and safety measures such as providing sufficient sanitation facilities and Personal Protective Equipment (PPE), reliable electricity, computers and necessary software. This poses a significant challenge for rural learners in fully engaging with online learning.

2.2.3 Socioeconomic disadvantage

Margetts C, (2020) stated that rural learners often come from economically disadvantaged backgrounds and the pandemic has exacerbated these disparities. Many families face financial hardships making it difficult to afford necessary educational resources such as text books, and stationery and other supplementary materials. The economic impact of the pandemic may also force some students to drop up out school to contribute to family income or engage in other livelihood activities (Flack, C 2020).

2.2.4 Disruption of learning continuity

During Covid-19 pandemic, schools closures and disruptions in rural areas have had a profound impact on the continuity of learning for rural learners (Mukherjee, D et.al 2022) Lack of access to in-person schooling and the challenges of distant learning have resulted in significant learning loss and interrupted educational trajectories for many students in rural communities.

2.2.5 **Lack of digital literacy skills**

According to Udeogalanya, V. (2022), some rural students who are unfamiliar with digital tools and platforms may find it difficult to pursue online education because it takes a certain degree of technology literacy. Rural learners especially those who have limited exposure to technology faced challenges in navigating online learning platforms effectively using software application or adapting to the switch to remote learning environments. This lack of familiarity with online learning systems hampers their ability to navigate virtual classrooms effectively and engage in collaborative activities.

2.2.6 **Home environment and distractions**

Rural learners have faced unique challenges related to their home environment such as limited space, noise distraction from family members, lack of a dedicated study area. The children at home were not allowed to go somewhere else to play due to the pandemic. These factors can affect concentration engagement and overall learning outcomes making it difficult for learners to focus on their classes and can lead to them missing important information struggling to complete assignments (Shamala R., 2021).

2.3 BENEFITS

During the Covid-19 pandemic, a lot of pupils experienced feelings of disconnection. Online learning fosters a feeling of community where students feel comfortable expressing their concerns to instructors and peers. Online learning has provided a haven from the pandemic's bad headlines, demands, and anxieties (Lederman, 2020). Effective knowledge building requires a strong sense of belonging to the knowledge community (Goodyear and Zenios, 2007). During the epidemic, taking lessons online can be an enjoyable and soothing experience that also helps students' emotional and psychological health (Lederman, 2020a; Lederman, 2020b). Furthermore, by routinely sending emails, the new online learning environment enhanced learner-lecturer interactions, as explained by Lin and Nguyen (2021). Some students found that keeping up a regular email writing schedule helped them stay motivated, especially when
Some students found that keeping up a regular email writing schedule helped them stay motivated, especially when their tutors responded positively.

One of the significant positive impact of shift to on line education for rural learners is the increased access to educational resources (Dhawan S, 2020). Traditionally, rural areas often faced limitations in terms of access to quality educational materials, libraries and specialized teachers. In addition, online education has provided a greater access to educational resources for rural learners who may have previously faced barriers such as distance. As a result of shifting to new online education system, they were able to access learning materials and interact with teachers from the comfort of their homes. On the other hand, digital resources such as interactive learning tools, educational films, e-books, and online libraries are abundantly available on internet platforms. These resources allow rural students to study subjects outside of their local physical surroundings and give them access to a variety of educational materials. Therefore this expanded access to resources enhances their learning experience and broadens their knowledge base.

Whalley B and France D, (2021) highlighted that online education platforms also offered rural learners the opportunity for personalized learning experiences in traditional classrooms teachers often cater to the needs of a diverse group of students making it difficult to give each person their own attention. In contrast, online learning allows students to complete assignments at their own speed, rewatch lectures or instructional videos, and go over material again as needed. This flexibility allows rural learners to adapt their learning experience to their specific needs enabling them to grasp the concepts thoroughly before moving on (Talan 2023). Online platforms can also make use of adaptive learning technology, which customize exams and information according to the student's strengths and weaknesses with flexible schedule allowing rural learners to balance their educational pursuits with other responsibility they may have such helping with household chores engaging in agricultural activities, further enhancing personalized learning opportunities for rural students.

2.3.1 **Development of technological skills**

The shift to online education has presented an opportunity to some rural learners to develop essential technological skill. In a rapidly digitalizing world, proficiency in technology is increasingly vital for future employment and overall participation in a society. By engaging with online learning platforms rural students becomes familiar with various digital tools, software and communication technologies. These skills not only enhance their educational experience but also equip them with transferable skills that are highly valued in modern workforce. As rural areas

strive to bridge the digital divide, the development of technological skills among rural learners becomes crucial for their future success (Mathew I.R, 2016).

Furthermore, online learning offers a great deal more flexibility than traditional classroom settings, which is crucial in times of pandemic (Lin and Hsieh, 2021). Students now have greater control over the course contents; they can adopt a more individualized learning style and decide on the best access time, order, pace, and quantity of information. The versatility of the online settings is increased by storing audio, video, electronic notes, slides, and rules on online platforms that are accessible from anywhere at any time. Higher academic achievement is associated with more control over the learning process (Hung et al., 2010). A variety of easily operated and adopted technologies make online classrooms and pertinent tools easily accessible to both teachers and students (Fauzi et al., 2021). An additional advantage of online learning is its wider reach, which guarantees improved educational opportunities, especially for pupils with disabilities and medical disorders such as Covid-19 infection and other illnesses (Migocka-Patrzałek et al., 2021).

2.4 CHAPTER SUMMARY

The Covid-19 epidemic has had an influence on education around the world, and many educational institutions are facing difficulties as a result of this abrupt outbreak. This has led to a new norm where technology is almost entirely integrated into daily life, especially in educational institutions. Positively, this pandemic has given everyone the chance to investigate and push the limits of educational establishments across the globe in order to improve their facilities and methods of instruction. The impact of Corona Virus on the educational system was examined in this article from the perspectives of instructors and students as well as the educational environment.

In addition, e-learning was discussed in terms of its benefits and drawbacks. Some of the difficulties that educators and students encounter when teaching and learning online include a lack of resources, a lack of technical know-how, a lack of social interaction between students and teachers, a bad internet connection, problems with motivation on both sides, and challenges in assessing and evaluating students. Therefore, in order to enhance the impacted educational system, the government must address these problems. The unexpected virus attack had a profound effect on the environment and educational system overall. In summary, the research indicates that numerous earlier investigations have emphasized the effects of Covid-19 on the educational

system, which has led to the issues that have resulted in the difficulties associated with online learning.

CHAPTER THREE: METHODOLOGY

3.1 <u>INTRODUCTION</u>

This chapter describes the approach used by the researcher to get data from the participants, including the steps taken and the processes that were followed. The research design, instruments, target population, sample, sampling techniques, ethics, confidentiality, study location, and methods for data presentation and analysis are all covered in this chapter. We'll look at the sample processes' justification.

3.2 <u>DESCRIPTION OF THE STUDY AREA</u>

South-east of the nation is Masvingo province, which includes Masvingo district. The district of Masvingo covers 654 thousand hectares. For communal land, the district's population density of 43 people per square kilometer is deemed high. Thirteen of the district's thirty-five wards are located in Masvingo Urban. Masvingo has the greatest concentration of schools—more than 100—than any other place.

Geographically, the Masvingo district consists of natural regions 3, 4, and 5 as well as three agro-ecological zones. The district is mostly used for farming. The district is situated between 450 and 124 meters above sea level. The district experiences an average yearly temperature of roughly 20 degrees Celsius. On the other side, wintertime lows of 10 degrees Celsius are not uncommon. Although the district receives 600 mm of rain on average each year, torrential downpours are frequent in the area of Lake Kyle and Great Zimbabwe. (Balarin, 1982)

Masvingo District has one of the largest town of Zimbabwe and is one of the oldest city which was found in 1890. Harare to Beit-bridge high way which is one of the major and longest road in Zimbabwe passes through making Masvingo District one of the busiest district in the country. Because of this Masvingo was classified as one of COVID 19 hotspot area. According to ZimStat (2022) report Masvingo District have a total population density of 57891.

3.3 <u>RESEARCH DESIGN</u>

In order to find out how schoolchildren felt about online learning during COVID-19, this study used a cross-sectional design with both an online and a physical survey with voluntary participants from voluntary school children, especially, grade sevens, form ones to six, school prefects, and teachers. In Masvingo District, the study was conducted over the course of three months in 2024. Due to financial constraints, the researcher employed both an online and a paper survey because it was not feasible to visit every district.

To obtain the necessary data, the research used a multi-research methodology. As a result, both qualitative and quantitative methodology were used in the study. Using the multi-research methodology was essential because the study needs both statistical data and visual analysis. According to (Kaplan and Duchon 1988; Esteves and Pastor 2004), using various approaches improves the robustness of results since triangulating data strengthens conclusions and allows for cross-validation when different types and sources of data converge.

The study employed a qualitative approach to gather primary data through focus groups involving a maximum of ten students, individual interviews with key informants and school prefects, and observations. Primary data helped generate concepts or hypotheses for prospective quantitative study as well as insights into the issue.

The quantitative technique was used to gather numerical data or data that might be converted into useful statistics. The District School Inspector's office, headmaster reports, and questionnaire surveys given to students were some of the techniques used to gather the data. The researcher was able to measure attitudes, beliefs, behaviors, and other well-defined factors using the quantitative approach and extrapolate findings from a larger sample size. Measurable data are used in quantitative research to establish facts and identify trends.

3.4 <u>PRIMARY DATA COLLECTION</u>

The process of gathering data involved interviewing study participants in-depth, taking notes, and documenting the results. In addition to conducting in-depth interviews, participants were required to complete a questionnaire on issues that came up during the online learning process.

3.4.1 <u>Questionnaire survey</u>

The researcher used questionnaires in conducting the study as one of the primary data collection tool. A single set of question was administered to 115 respondents from 23 selected schools that is one school per ward in Masvingo district. When assessing educational and extension programs, questionnaires are the most often utilized technique for gathering data from program participants (Colosi, 2006).

Questionnaires were administered to five children per school. In some case a mobile questionnaire were administered to the headmasters through the offices of DSI and then the headmaster would administer the questionnaire on behalf of the researcher. The interrogator discussed the effects of going online during the COVID-19 pandemic. To verify the validity and reliability of the data that would be acquired by the survey questions, a pre-test survey was carried out in two schools.

While some questions were essential for obtaining qualitative data, questionnaires were also vital for gathering quantitative data, which is critical for drawing conclusions. Furthermore, surveys were crucial in getting the right information from respondents. But, on the other hand, it was exceedingly difficult to determine whether the respondent had comprehended the question, and there was no proof that the legitimate respondent had finished the questionnaire especially for those that were sent to the headmaster via mobile which is why the results were incomplete.

3.4.2 <u>Key informants interview</u>

According to LeCompte and Preissel (2007), an interview is a method for gathering data that allows for direct response from the subject and encourages more questioning. Key informants who work directly with learners provided information using the instrument. Among these important informants were the offices of DSI, CAMPFED, parents, teachers, and headmasters. Since it allows responders to have a greater degree of confidence in one another, sensitive matters were discussed openly. The following table shows the number of responders.

Table 3.1 respondents key informants interview

Respondent category	Number of people
Headmaster	10
Teachers	10
Parents of students	7
District School Inspector	1
CAMPFED 's office	1
Total of respondents	29

In order to obtain as much detail as possible from the interviewees, the questions were open-ended. The use of audio recordings and notes during the interviews allowed the researcher to stay focused on aspects to be looked at in the research without deviating from the subject. The in-depth interview discussions helped triangulate information from the survey and focus group discussions. The tool is defined as an in-depth interview that involves one-on-one, face-to-face interaction between the interviewer and respondent after building intimacy intended for mutual self-disclosure (Knott, E 2022). The advantage of the tool is that, it allowed the interviewer to create a strong rapport with the respondents and clarify questions

3.5 <u>SECONDARY COLLECTION</u>

Secondary data from monthly monitoring and evaluation reports DSI's office, CAMPFED's office and headmaster were reviewed to compliment primary data. Secondary data provided quantitative data on extent of the impacts of online leaners to the rural students on the awake of Covid-19

The DSI's office report provided statistics for the district in terms of, estimated population figures, information and technology requirements, estimated number of pupils who were able to do online learning, number of subjects that were challenging to be taught using online sessions, limited device availability, unstable power sources, insufficient ICT proficiency among consumers, and inadequate network coverage.

3.6 SAMPLING STRATEGY

The research was conducted for three months starting. Descriptive qualitative and quantitative research are the methods used to identify the issues that arise in online learning. A study that tries to disclose facts or events that happened during the research that are connected to the concepts, perceptions, opinions, and beliefs of the subjects is known as qualitative descriptive research Creswell (2013).

In order to make it easier to obtain data, students who was sampled and became the research subject was chosen by headmaster and teach0ers, who they believe have the capacity to read and write and answer questioners. Purposive sampling, which is sampling done with specific considerations, was the method used for the sample process. Purposive sampling's fundamental tenet is that focusing on subjects who exhibit particular traits will yield more insightful research than random sample. Etikan, I., Alkassim, R.S., Musa, S.A., and Omona (2013). Respondents who experience the effects of online learning are the factors taken into account in this instance.

3.7 DATA ANALYSIS AND METHOD

According to Meyer & Avery (2008), Basurto & Speer (2012), and Creswell (2013), there has been a shift in the way that qualitative data analysis views the world. Consequently, computer-aided qualitative data analysis software has replaced human analytical procedures in these adjustments Chanza (2020). According to Creswell (2013), methodological talks on qualitative data analysis have gained popularity recently, although in the past, most details on the methodology' execution were unknown.

In contrast to qualitative data, where one may encounter difficulties, quantitative data requires adherence to specific conventions, as noted by Tiersma K. (2022) and McKee (2013). Because of this, the analysis in this particular research involved working with large volumes of unstructured

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texts that required careful interpretation in order to satisfy the needs of the knowledge creators while producing results that were credible for scientific audiences.

Since the study employed both qualitative and quantitative data, statistical data analysis was carried out using Microsoft Excel 2016 to produce the figures. Descriptive statistics were used to analyze and interpret the data. In particular, the researcher used a manual approach to analyze the qualitative data, a decision that was made after giving careful thought to the key informants with whom the interviews were conducted.

3.7 <u>LIMITATIONS</u>

Due to limited financial resources, other questioners were not administered directly to the learners, rather than were send online through WhatsApp to the headmaster then the Headmaster would administer to the pupils. As a result, the results were incomplete because there was insufficient proof to support the completion of the questionnaire by the legitimate respondent, particularly for the ones that were sent to the headmaster by mobile.

3.9 <u>CONCLUSION</u>

The chapter focused more on how the research was conducted in order to solicit the impacts of shifting to online learning, specifically looking at the research design, data collection procedure, sampling technique, and analysis. In summary, a quantitative and qualitative research paradigm was adopted in this study in order to address the impacts of shifting to new online education system in the wake of the COVID 19 Pandemic on rural learners. This approach allowed flexible approaches capable of tapping out the experiences and perspectives of learners being studied in order to get a richer description of the context in the impacts of online learning.

CHAPTER FOUR:DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 <u>INTRODUCTION</u>

The results on the effects on rural learners of switching to a new online education system in the wake of the Covid-19 Pandemic will be presented, analyzed, and discussed in this chapter. This chapter's primary goal is to make inferences about the research findings that were obtained through manual and Microsoft Excel approaches. The results acquired are connected to the objectives of this study.

The objectives were to:

(a) Investigate the impacts of new online education system

(b) Assess specific challenges faced by rural learners in accessing quality education through online platforms

(c) Assess student perception and attitude towards online learning

Objective 1: to investigate the impacts of new online education system

4.2 <u>NATURE OF ONLINE LEARNING</u>

4.2.1 Online education

The COVID-19 pandemic caused a major disruption to higher education by driving a shift to online learning, which was made mandatory during the lockdowns Helou, S (2021). Even though the situation with the pandemic has gradually improved since then, online learning is growing in popularity because it offers new opportunities for learning.

The educational sector has used a variety of approaches to undertake online learning. While some schools required students to attend live lessons via computer and mobile applications and software like Zoom and Microsoft Teams, others offered pre-recorded video and audio lessons along with a PDF of pertinent materials (Migocka-Patrzałek et al., 2021; Lin and Nguyen, 2021; Giannoulas et al., 2021). During the COVID-19 pandemic, for example, live-streaming apps such as DingTalk, Tencent Meetings, and Tencent QQ were widely used, especially in China, where the virus was

first discovered. DingTalk was first created as an internal communication platform for commercial use in an office setting, but during the pandemic, it gained popularity in the educational sector and was recommended to teachers and students by IT departments in the education sector.

However due to economic challenges, this was a different story in developing nations, especially in Zimbabwe. In most of Zimbabwe, COVID-19 has interfered with traditional education, leading to the widespread shutdown of schools. In order to continue studying remotely, kids and students have had to rely more on their own resources, such the internet, television, and radio, despite the efforts of the educational community to preserve learning continuity throughout this period. Additionally, educators have to adjust to new ideas in online learning and methods of instruction.

4.3.1   Online Learning platforms

The study identifies three major online learning platforms that were using during the pandemic. These platforms are WhatsApp, radio and television. Figure below highlights platform that were being used for online education. The study identified that 30 percent used radio, 20 percent used WhatsApp, 8 percent used television, and 15 percent used all outlined however 27 percent reported that they did not have anything to relay on for online education.
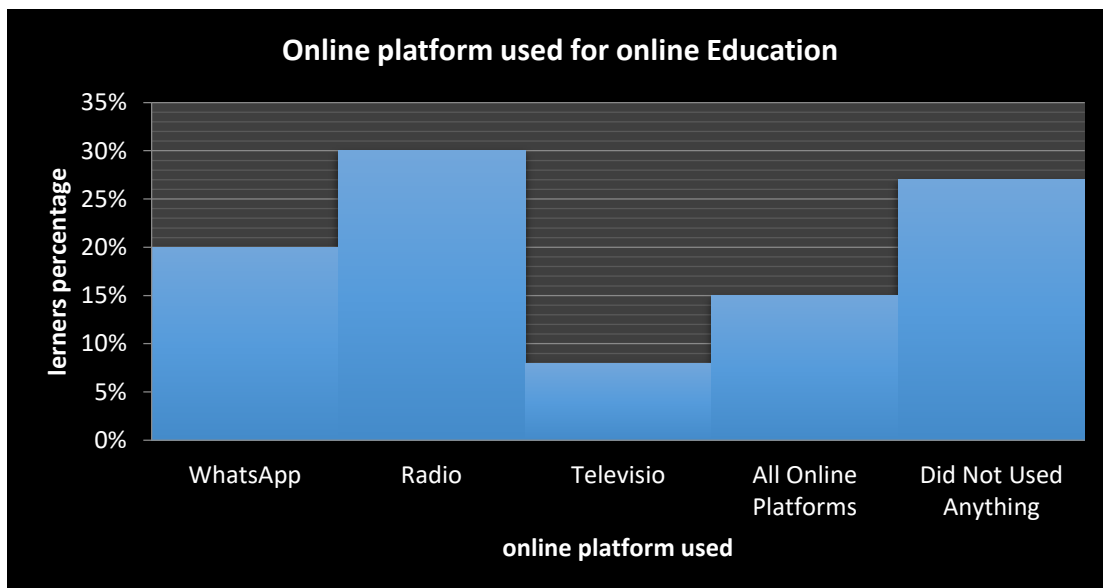

Fig 4.1 online learning platforms

27% of the learners reported having no access at all to television, radio, or internet course broadcasts. The majority of them restated that the only thing they could recall is that their schools had received radios from their district education offices, but they had never had a chance to use them since the pandemic began. Once more because of COVID-19 restrictions, they were unable to attend school, which prevented them from taking radio courses. The majority of them had to assist their parents in the fields and with other household tasks, so even in their houses, they were pressed for time. They added that even though they had radios, the entire family would typically utilize them for fun and music so as not to bother anyone. Due to their complete lack of television reception from Zimbabwe Broadcasting Television (ZBC), accessing the television instructional broadcast was exceedingly challenging. Just two students acknowledged owning television devices, but these were purely recreational since their families frequently watch movies on DVD players. The following was stated by a female student:

In response to the concerns raised by the radio students, every headmaster surveyed stated that the school obtained a radio for radio instruction from UNICEF. Nevertheless, it was ineffective for online education because the national radio station ZBC's set time for online learning ran counter to actual events. Lockdown laws caused schools to close, preventing students from attending classes.

Other students stated that this online learning idea never worked for us at all because we also experienced network issues when attempting to use the WhatsApp online platform because of power outages. Some students stated that they don't own any cellphones at all for WhatsApp.

Objective 2: assess specific challenges faced by rural learners in accessing quality education through online platform

4.4 CHALLENGES FACED BY RURAL LEARNERS

4.4.1 Level of learner's closeness

Time spent between learners decreased during the online education. This affected them psychologically. Participants were assessed in 4 different questions. Firstly After the shift to online learning, participants were questioned about how frequently they were spending time with their classmates on activities linked to the class and those that weren't. According to the study, 51% of participants in class-related activities did not spend any time with their classmates, 15% did so

once or twice during the term, 10% did so three or four times during the term, 17% did so five or six times during the term, and only 7% were able to meet more frequently. In addition, leaners were asked how frequent were they managed to meet for other activities. For non-class related activities, 41 students never met frequently, 26 percent meet only once during the term, 16% did three to four times during the term, 8 did five to six times per term and 9 did no managed to meet all during the term. This is shown on figure below.
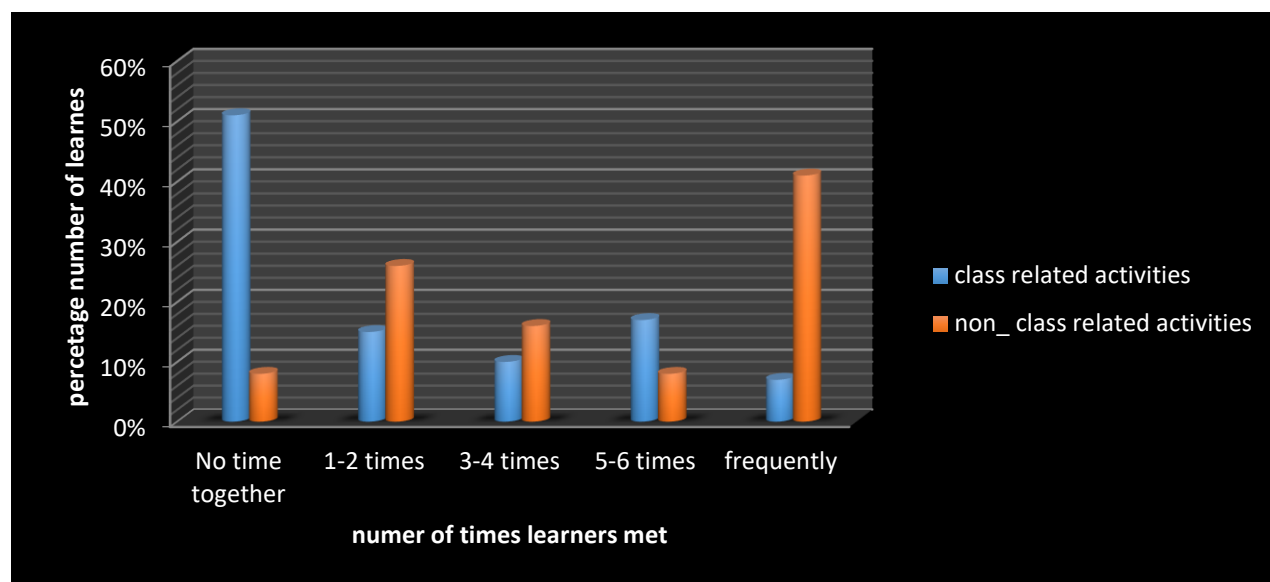

Fig 4.2 level of learner's closeness

When asked regarding what were the major occasion they would usually meet others replied that they would usually meet during church services and animal dipping areas hence there was no time to take about education since everyone would be busy. From the key informants augured that those who would meet were according to their arrangement without the knowledge of the school authority since social gathering were prohibited as a standard solution to mitigate the spread of Corona Virus. However those who frequently meet where the writing classes that is form fours and grade sevens.

4.4.2   Level of motivation

Level of motivation was assessed in two different ways. Firstly participants were asked about their motivation in doing their school work particularly writing their work through online platforms. More so learners were asked about hours they were spent in doing school work.

4.4.2.1 Level of motivation in doing school work

Figure below illustrates level of motivation to do school work before switch to online education and after.
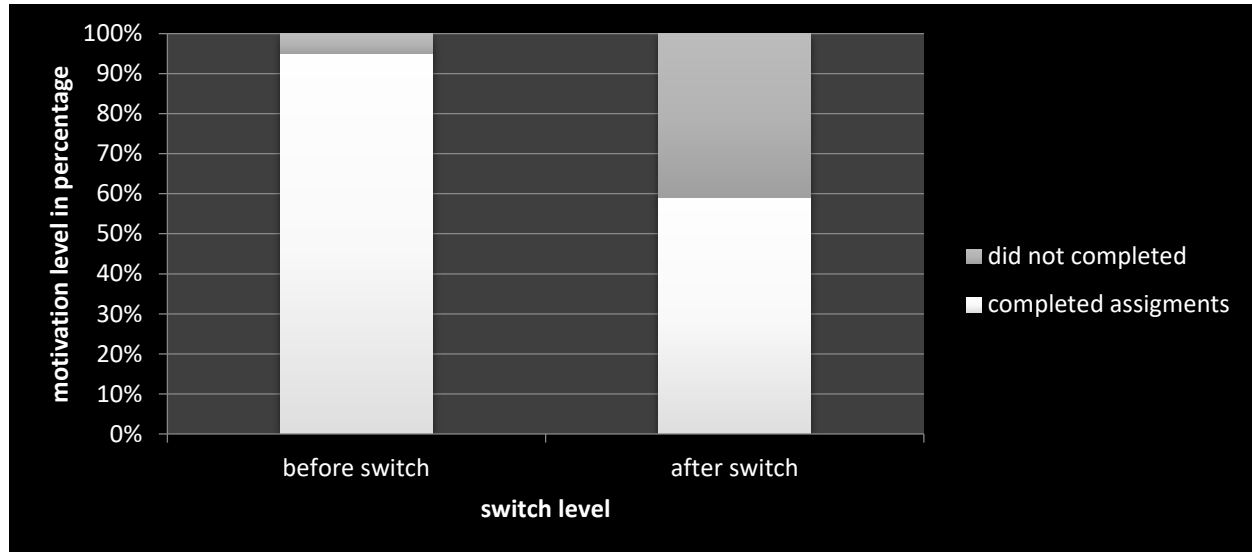
Fig 4.3 level of motivation to do school work

The study reviewed that, when comparing the level of motivation regarding school work before and after switching to online education, there was a big change. Before and after the transition to online learning, students were questioned about their motivation to finish their tasks. The scores varied significantly from one another. Analysis revealed that after converting to online learning, students felt much less motivated to finish their assignments. Only 59.09% of participants reported feeling moderately to extremely motivated, compared to 94% who reported having moderate to excellent motivation.

4.4.2.2 Hours spend doing school work

Graph bellow shows hours spend by learners in their academics during distance learning and fascia to fascia learning.

Fig 4.4 hours spend in doing school work

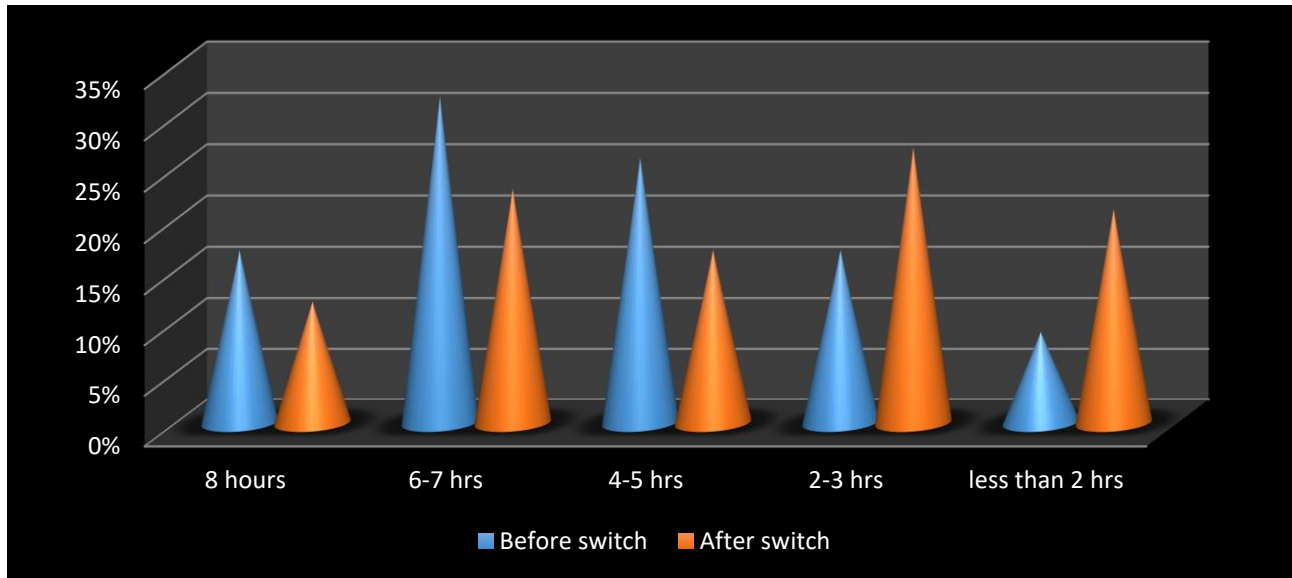The participants were also asked how much time they spent on schoolwork; after the switch to an online learning system, 12 percent of participants devoted more than 8 hours per day, 23% devoted 6-7 hours, 17% devoted 4-5 hours, 27 devoted 2-4 hours, and 21 percent devoted less than 2 hours. As can be seen in the above figure, there was an overall decrease in the amount of time spent on schoolwork per day following the switch to an online learning system. Major reason of not devoting to school work was pinned to house chores.

4.4.3 Area of residents and IC out come

Online learning had a significant impact on rural learners since, in contrast to their urban counterparts, they were attending more classes. The unfortunate reality is that during the whole national lockdown, the majority of educators assigned to rural duty stations were either in metropolitan regions or at home in rural areas. As a result, most rural schools had very few or no educators on staff. As a result, even if they choose to study independently, the students in the remote areas would have no one to turn to for clarification. One of the interviewed teachers clearly stated that:

"I couldn't afford to be by myself during the whole national lockdown period, so I spent it with my family."

The situation for rural learners was made worse by information obtained from the DSI desk, which reviewed that in the absence of appropriate infrastructure and basic resources, online learning

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could not have taken place, even in the case that educators were present at their rural duty stations. For others of the teachers, the situation was considerably worse because their remote work stations were without electricity. Conversely, several educators assigned to remote locations claimed that while the government had provided them with a small number of computers for computer literacy training and computer studies, they had not received any instruction on how to utilize the digital devices.

The headmaster's display a picture taken on his phone depicting the suffering of rural youngsters during the introduction of online schooling was heartbreaking. The image demonstrated the disparities in socioeconomic status between rural and urban dwellers; it was clear from the image that access to online education was reserved for the wealthy and not for the impoverished, and that it was out of reach for the majority of Zimbabweans living in rural areas. It also demonstrated that online education remained a pipe dream for rural kids, which is why COVID19 had a significant negative impact on the majority of these kids. The headmaster who was interviewed finished by saying:

"Students in rural areas lack sufficient textbooks." It was a joke about online education, which they find ridiculous.

4.4.4   Internet connection

Pie chart shows number of learners and their state of internet connection.
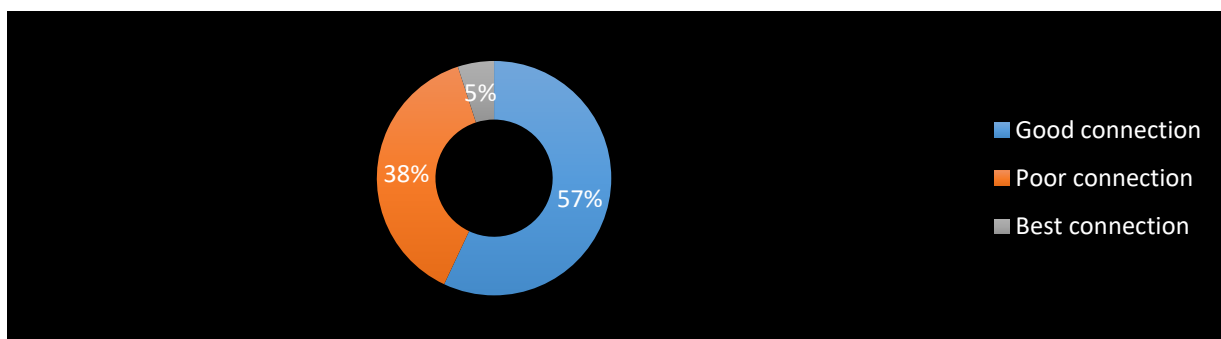
Fig 4.5 number of learners and their state of internet connection

From the question asked regarding internet connection in rural areas, 57 percent reviewed that they were not well connected with best internet connection with to conduct online learning. 38 students

experienced some times poor connectivity and downloading subject wise information that is video particularly those who were doing practical subjects such as agriculture among others, pdf etc. and 5 percent students did not face technical issues in online learning. This is clearly shown on the figure below.

Objective 3: assess student perception and attitude towards online learning

4.5   LEARNER'S PERCEPTION OF ONLINE LEARNING

4.5.1   The effectiveness of online learning against traditional face-to-face

A comparison of traditional face-to-face instruction and online learning is shown in the figure below.
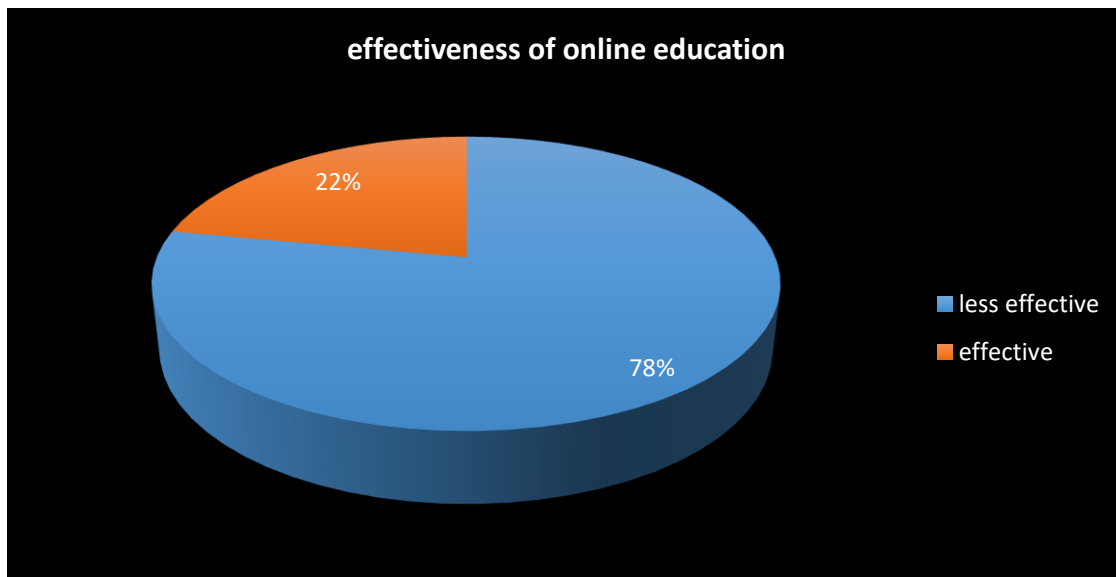
Fig 4.6 effectiveness of online learning

According to the study, a majority of participants (78 percent) believed that traditional face-to-face learning was more effective than online learning. Furthermore, traditional face-to-face learning was perceived by 50.8% and 59.9% of the respondents, respectively, as increasing knowledge and skills more than online learning. The study found that the preference for traditional in-person instruction stemmed from the abrupt introduction of online learning brought about by Covid-19, which made it challenging for both teachers and students to adjust. Moreover, educational establishments were also taken aback. Even while most respondents preferred in-

person instruction over distance learning, they nevertheless favored its usage in education, citing its novelty and need for promotion.

4.5.2   Students' attitude toward the perceived usefulness of online learning amid the Covid-19

The attitude regarding the perceived value of online learning during the COVID-19 pandemic is depicted in the graph below.
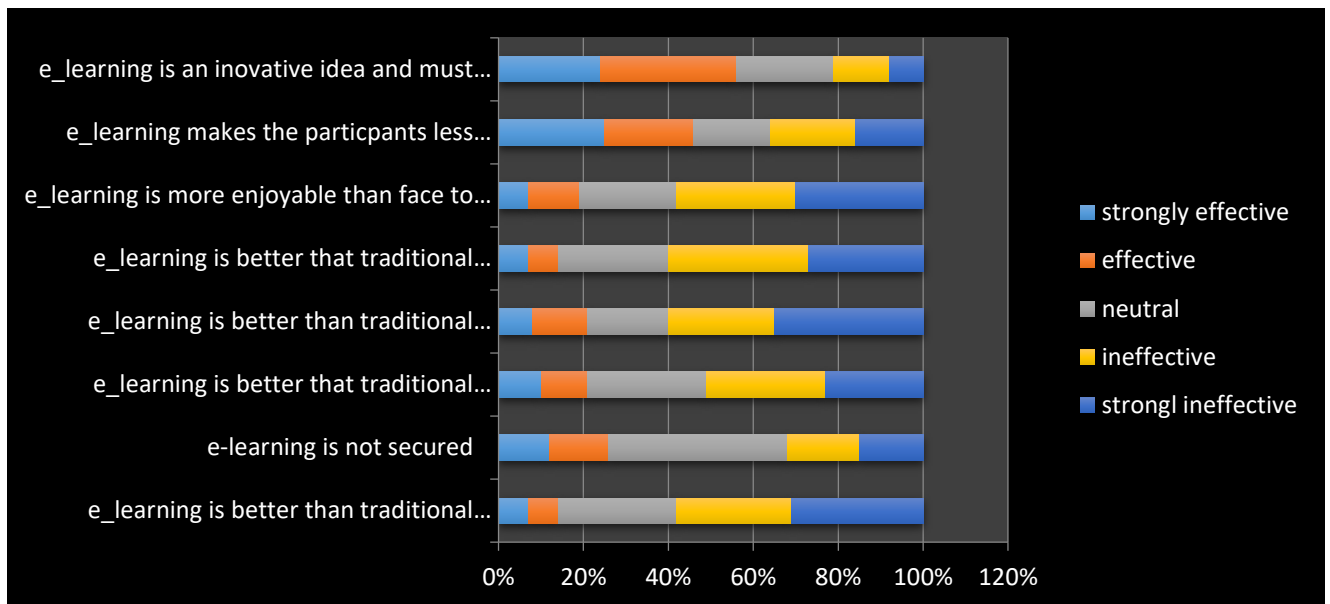
Fig 4.7 attitude towards usefulness of online learning

Despite the fact that the majority of respondents (97.1%) engaged in online learning, the majority of respondents (72.7%) had a poor opinion of the utility of online learning, and 46.3% said it could not resolve many educational issues. The respondents' perceptions of the value of online learning are depicted in the figure below. It was discovered that the majority of respondents (46.3%,52.0%,42.6%,63.3 and 67.8% respectively) disagreed that online learning could improve teacher and student interaction, help them achieve better results, solve many educational problems, or improve their access to other learning materials. 176 (72.7%) out of the respondents, or more than half, claimed that it helped them save time.

4.5.3 Students' attitude toward the intention to adapt to online learning during Covid-19

As for the intention to modify and adapt online learning, 45.9% of respondents denied that they had no interest in using it, and 58.6% of students stated that they would like to do so. The low intention to adapt to online learning in this study may have been caused by the high negative attitude noted in the current study and the lack of resources to support online learning infrastructure. According to data obtained from the DSI's office, students' ability to adjust to the online learning approach depends on their level of awareness, familiarity with information technology, and willingness to participate. For this reason, the Ministry of Primary and Secondary education should prioritize raising students' awareness of technology use in order to improve their ability to adapt to online learning.
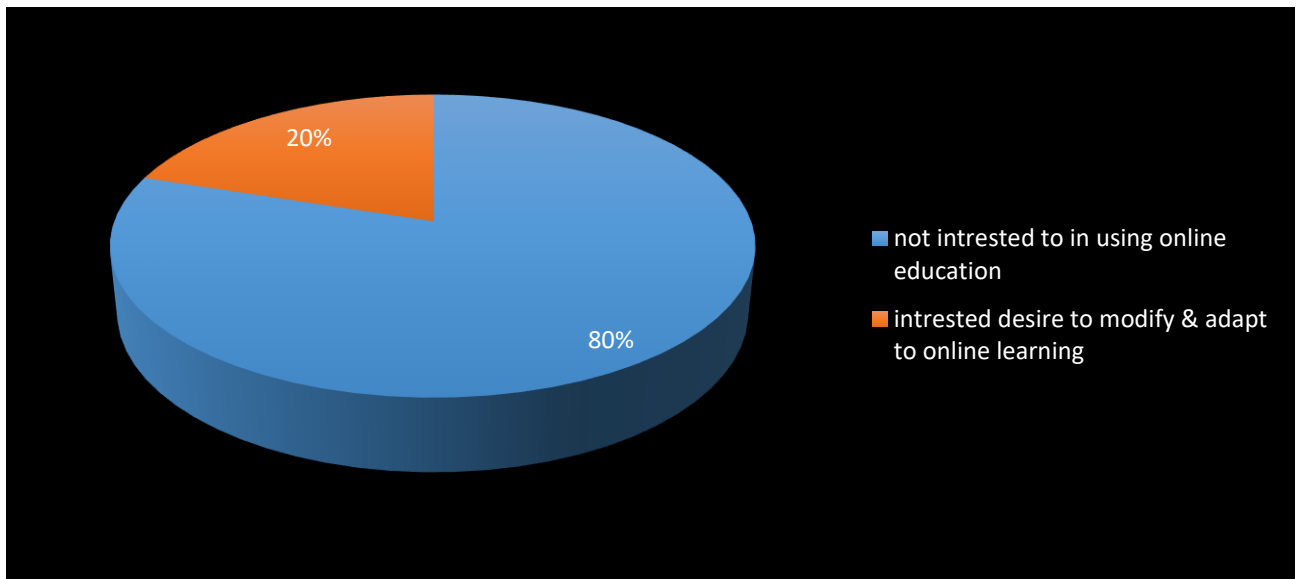
Fig 4.8 student's attitude towards adapting to online learning

4.5.4 Students' perceptions of the ease with which they can use online learning

Regarding online learning's ease of use, most respondents satisfactorily indicated that it was simple to learn online. Sixty-four percent of those surveyed disagreed when asked if taking classes in person was easier than taking them online. 40.9% of respondents in the current poll disagreed that they would one day become enslaved by technology. This is consistent with the survey, which also showed that 38.8% of participants refuted the claim that they will one day become enslaved by

technology. Considering that most of the study participants were open to utilizing online learning technology, this is encouraging.

4.6 <u>CONCLUSION</u>

In summary, data visualization and analysis showed that the introduction of online learning in the wake of COVID-19 negatively impacted more than 75% of students. Furthermore, the study comes to the conclusion that since learning was done through trial and error, many students missed their lectures as a result of the unplanned lockdown that led to the closure of all educational facilities. As a result, the education sector must establish backup plans that it may use in case of emergency. The study goes on to say that the differences in Masvingo District's educational system are concerning and require immediate attention.

CHAPTER FIVE: RECOMMENDATIONS

5.1 INTRODUCTION

Based on the information gathered, the chapter will give a summary, conclusion and recommendations regarding the research findings. In doing so, the chapter is required to provide recommendations by elaborating on the solutions to the issues from the perspective of the researcher.

5.2. SUMMARY

The study looked on assessing the impacts of shifting to new online learning during Covid-19 on rural learners. Using both primary and secondary data, the study's goal was to evaluate the difficulties faced by rural learners during the pandemic. It was carried out in Masvingo District, with the primary data being collected through observations and questionnaires given to a number of students in different schools in the district. Therefore to helm all, despite the challenges experienced by the learners on shifting to new online learning, there partakes a huge positive impact on reducing the spread of the various through gathering for face to face lessons and also development of technological skills to some rural learners to mention a few.

5.3 CONCLUSION

In summary, the research indicates that COVID-19 has had an effect on the teaching strategies used by universities worldwide. As a substitute for traditional classroom instruction, schools, colleges, and universities are now required to host lectures and classes online. Even though it has been demonstrated to improve students' health during the epidemic, online learning is not as successful as traditional schooling. Furthermore, the efficacy of online learning might have been hampered by a weak internet infrastructure. Instructors need to use efficient pedagogical strategies to enhance the online learning experience for students. In addition, the government needs to assume accountability and upgrade the current web infrastructure and features. Support from parents, school administrators, and school communities, however, is essential to guarantee the success of online learning.

5.4 RECOMMENDATIONS

The study's conclusions led to the formulation of the following suggestions. These suggestions aim to address the difficulties rural students encounter while transferring to new online courses. In evaluating the response of students in rural Masvingo to online learning, the following list of recommendations addresses certain enhancements that address study findings and can improve readiness for pandemics, emergencies, and uncertainties in the future; for this reason, they are noteworthy:

To overcome the challenge of limited access to technology and internet connectivity, the government and educational institutions must prioritize infrastructure development in rural areas, ensuring that schools and households have access to reliable internet connections and providing students with necessary devices. Initiatives for partnerships between the public and commercial sectors can be extremely important in closing this gap and guaranteeing rural students have equitable access to educational opportunities.

Addressing the challenge of lack of digital literacy and skills, it requires targeted interventions that focus on digital literacy training for both students and teachers. Providing comprehensive training programs that teach basic computer skills, internet navigation and software proficiency can empower rural learners to adapt to new online education systems. Additionally, partnership with non-profit organizations and community centres can help deliver such training to remote areas, ensuring that rural students receive the necessary support.

To mitigate the effects of social learning theory as a challenge, educators should incorporate interactive elements into online classes such as virtual group activities, discussion forums and video conferencing. These initiatives can foster a sense of community among rural learners and provide them with opportunities to connect with peer and teachers. Furthermore, organizing virtual extracurricular activities and clubs can help students develop social skills, enhance creativity and promote holistic development.

More so, educational institutions should prioritize mental health support services for rural learners, offering counselling services and resources to promote wellbeing. Encouraging regular breaks, physical exercise and online activities can help reduce the negative effects of prolonged screen

time. Additionally involving parents and guardians in the learning process and creating a supportive home environment can contribute to the overall well-being of rural students
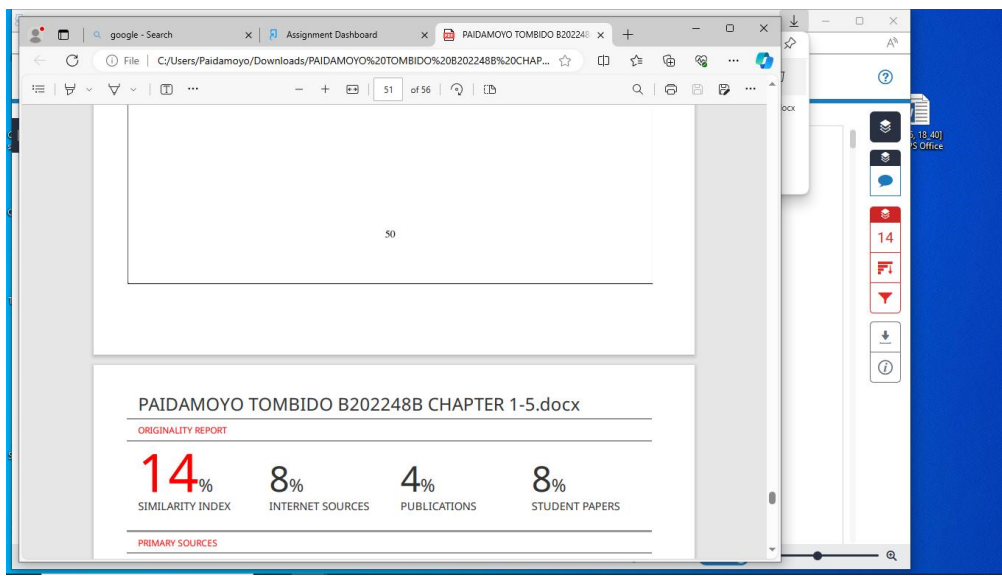
RERERENCES

Chen, M. A., Majumdar, R., Abou-Khalil, V., Helou, S., Khalife, E ,Ogata H. (2021). Effective ways for student participation in emergency online learning environments with limited resources. 1–18 in Education Sciences

Al-Mahmood, R., & Mcloughlin, C. (2004). Re-learning through e-learning: Changing conceptions of teaching through online experience. Proceedings of the 21st ASCILITE Conference (pp. 37–47) Perth Retrieved from http://www.ascilite.org.au/conferences/perth04/procs/al-mahmood.html

Álvarez-Bornstein, B., & Montesi, M. (2020). Funding acknowledgements in scientific publications: A literature review. Research Evaluation, 29(4), 469-488

Al-Samarrai, S., M. Gangwar and P. Gala (2020), The Impact of the COVID-19 Pandemic on Education Financing, World Bank, Washington, DC, https://openknowledge.worldbank.org/handle/10986/33739 (accessed on 27 May 2020).

Bacher-Hicks, A., Goodman, J , & Mulhern, C. (2020). Inequality in household adaptation to schooling shocks: Covid-induced online learning engagement in real time. Journal of Public Economics, 193, 104345–104361.

Beldarrain, Y., (2006). Distance education trends: integrating new technologies to foster student interaction and collaboration. Distance Education, 27(2), pp. 139-153

Dhawan, S., (2020). Online learning: A panacea in the time of COVID-19 crisis. Journal of educational technology systems.

Esteves J and Pastor J (2004). Using a Multimethod Approach to Research Enterprise Systems Implementations. Academic Conferences Ltd, ISSN 1477-7029

Fairclough N (2002). Analysing Discourse: Textual Analysis for Social Research. Routledge, London

Flack, C., Walker, L , Bickerstaff, A. and Margetts, C., (2020). Socioeconomic disparities in Australian schooling during the COVID-19 pandemic. Melbourne, Australia: Pivot Professional Learning

Gautam (2020). Advantages and disadvantages of online learning. ELearning Industry.https://elearningindustry.com/advantages-and-disadvantages-onlinelearning.Access:20 April

Graves, J.M., Bashir D.A., Amiri, S. and Mackelprang, J.L (2021). Disparities in technology and broadband internet access across rurality: implications for health and education. Family & community health.

Hardre, P.L. & Sullivan, D. (2008). Classroom environments and student differences: How they contribute to student motivation in rural high schools Learning and Individual Differences, 18:471- 485

Hardre, P.L. (2008). Taking on the motivating challenge: Rural high school teachers' perceptions and practice. Teacher Education and Practice, 21(1):72-88

Howley, A, Rhodes, M. & Beall, J. (2009). Challenges facing rural schools: Implications for gifted students. Journal for the Education of the Gifted, 32(4):515-536

Hung, M.-L., Chou, C., Chen, C.-H and Own, Z.-Y., (2010). Learner readiness for online learning: scale development and student perceptions. Computers and Education, 55(3), pp. 1080-1090.

Ibadin, O.V. (2010). An analysis of teachers' utilisation in urban and rural secondary schools in mid-western states of Nigeria. European Journal of Educational Studies, 2(2):87-92.

Johnson JM (2001). In-depth Interviewing. Handbook of Interview Research. Gubrium JF and Holstein JA (contr.). SAGE, Thousand Oaks, CA.

Kaplan, B., Duchon, D. (1988) "Combining Qualitative and Quantitative Methods in Information Systems Research: A Case Study", MIS Quarterly,

Knott, E., Rao, A. Summers K. et al. Interviews in the social sciences. Nat Rev Methods Primers **2**, 73 (2022). https://doi.org/10.1038/s43586-022-00150-6.

Legotlo, M. (2014). Challenges and Issues facing the Education System in South Africa. Pretoria: Africa Institute of South Africa.

Lingam, G.I. (2012). Preparing teachers for rural schools: An empirical evidence from a Fiji case. Greener Journal of Educational Research, 2(2):1-12.

Loeb, S., Darling-Hammond, L. &Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. Peabody Journal of Education, 80(3):44-75.

Lorente, L. M. L., Arrabal, A. A., & Pulido-Montes, C. (2020). The right to education and ICT during covid-19: An international perspective Sustainability, 12(21), 9091.

Macharia, W. (2021). Factors Influencing Education during the Covid-19 Pandemic, a Case of Primary Schools in Kajiado County (Doctoral dissertation, University of Nairobi)

Mathew, I R. and Ebelelloanya, J., (2016). Open and distance learning: Benefits and challenges of technology usage for online teaching and learning in Africa

Meyer DZ and Avery LM (2009). Excel as a qualitative data analysis tool. Field Methods, 21 (1): 91-112.

Milanowski, A T., Longwell-Grice, H., Saffold, F., Jones, J., Schomisch, K. & Odden, A. (2019). Recruiting new teachers to urban school districts: What incentives will work? International Journal of Education Policy and Leadership, 4(8):1-13

Mukherjee, D. and Hasan .K (2020). Challenges in learning continuity during the COVID-19 pandemic: A methodological and thematic review. South Asian Journal of Management.

OECD, (2020). Learning remotely when schools close: How well are students and schools prepared? Insights from PISA, OECD

Pesnell, B (2020). Elementary teachers' experiences with remote learning and its impact on science instruction: Multiple cases from the early response to the Covid-19 pandemic

Pokhrel, S. Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. Higher education for the future, 8(1), 133-141.

Rost, M., (2019). A dive into the challenges of online distance learning [Online]. Online: Pearson English. Available at: https://www.english.com blog/a-dive-into-the-challenges-of-online-distance-learning [Accessed 17th of March 2020].

Sahu, P., (2020). Closure of schools due to coronavirus disease 2019 (covid-19): impact on education and mental health of students and academic staff. Cureus, 12(4), pp. 7541-7541.

Selvaraj, A., Radhin, V. Nithin, K., Benson, N., & Mathew, A. J. (2021). Effect of pandemic based online education on teaching and learning system. International Journal of Educational Development, 85, 102444.

Srinivasan, M., Jishnu, D. and Shamala, R., (2021). COVID-19 and online education: Digital inequality and other dilemmas of rural students in accessing online education during the pandemic. World of Media. Journal of Russian Media and Journalism Studies.

Tadesse, S. and Muluye, W., (2020). The impact of COVID-19 pandemic on education system in developing countries: a review. Open Journal of Social Sciences, 8(10), pp.159-170.

Tadesse, S., & Muluye, W. (2020). The impact of COVID-19 pandemic on education system in developing countries: a review. Open Journal of Social Sciences, 8(10), 159-170.

Tang, S., Xiang, M., Cheung, T., & Xiang, Y. T. (2021). Mental health and its correlates among children and adolescents during COVID-19 school closure: The importance of parent-child discussion. Journal of affective disorders, 279, 353-360. https://doi.org/10.1016/j.jad.2020.10.016

Tiersma K, Reichman M, Popok PJ, Nelson Z, Barry M, Elwy AR, Flores EJ, Irwin KE, Vranceanu AM. The Strategies for Quantitative and Qualitative Remote Data Collection: Lessons from the Covid-19 Pandemic. JMIR Form Res. 2022 Apr 8 .

Tiruneh, D. T. (2020). Covid-19 school closures may further widen the inequality gaps between the advantaged and the disadvantaged in Ethiopia. Education in Emergencies, April.

Udeogalanya, V., (2022). Aligning digital literacy and student academic success: Lessons learned from COVID-19 pandemic. International Journal of Higher Education Management.

Vargo, D., Zhu, L., Benwell, B., Yan, Z. (2021). Digital technology use during COVID-19 pandemic: A rapid review. Human Behavior and Emerging Technologies, 3(1), 13-24. https://doi.org/10.1002/hbe2.242

Veli Batdı, Yunus Doğan Tarık Talan. (2023) Effectiveness of online learning: a multi-complementary approach research with responses from the COVID-19 pandemic period. Interactive Learning Environments 31:7, pages 4113-4146.

Whalley, B., France, D., Park, J., Mauchline, A. and Welsh, K , (2021). Towards flexible personalized learning and the future educational system in the fourth industrial revolution in the wake of Covid-19. Higher Education Pedagogies.

APPENDICES

 Appendix 1: Questionnaire

Assessing the impacts of shifting to new online education system in the wake of Covid-19 Pandemic on rural learners in Masvingo District.

Department of Geography (HDs DMS), Bindura University.

How are you, sir or madam? My name is Paidamoyo Tombido, and I'm a final-year student at Bindura University of Science Education pursuing a Bachelor of Science Honors Degree in Disaster Management. I am conducting research to analyze the effects of transitioning to a new online education system in the aftermath of the Covid-19 Pandemic on rural learners in Masvingo District. I am humbly requesting your response to the following questions. The information submitted on the questionnaire will be kept totally confidential and used only for academic purposes.

Date of survey 20/04/24

SECTION A: RESPONDENT DEMOGRAPHIC INFORMATION

Instructions: Please select the answer by placing a (X) in the box next to the most appropriate option, or fill out the proper answers to the questions.

1. **Age**

Under 13 ☐

14-16 ☐

17-19 ☐

Over 19 ☐

2**. Sex**

-M ☐

-F ☐

3. **Academic level**

-Pry ☐

-Sec ☐

4. Location

-Village/ town name……………………….

-District …………………………..

Section B: Access to Technology and Internet

5. Do you have access to internet at home?

-Yes ☐

- No ☐

6. If yes, how would you rate the quality of your internet connection?

- Excellent ☐

-Good ☐

-Fair ☐

-Good ☐

-Poor ☐

7. What devices do you use for online learning? (select all that apply)

-Smartphone ☐

-Tablet ☐

-Laptop ☐

-Desktop computer ☐

-Other ………………………………………

Section C: Learning Environment

8. How conducive is your home environment for online learning?

-Very conducive ☐

-Conducive ☐

-Neutral ☐

-Not very conducive ☐

-Not conducive at all ☐

9. Do you have a peaceful study area at home?

-Yes ☐

-No ☐

-Sometimes ☐

Section D: Educational support

10. How often do you receive support from your teachers for online learning?

- Daily ☐

-Weekly ☐

-Monthly ☐

-Rarely ☐

-Never ☐

11. How would you rate the availability of educational resources provided by your school?

-Excellent ☐

-Good ☐

-Poor ☐

-Fair ☐

-None ☐

12. What type of support do you find most helpful? (Select all that apply)

-Online classes ☐

-Study materials (e.g PDF's, notes) ☐

☐

- Virtual meetings with teachers

-Peer support groups ☐

-Other ☐

13. Section E: Challenges faced

What are the main challenges you face with online learning? (Select all that apply)

-Poor internet connection ☐

-Lack of access to devices ☐

-Distracting home environment ☐

-Lack of teacher support ☐

-Difficulty understanding online materials ☐

-Other……………………………….

14. On a scale of 1-5, how much have these challenges affected your academic performance?

-1 (not at all) ☐

-2 (slightly) ☐

-3 (moderately) ☐

- (significantly) ☐

- (severely) ☐

Section F: Solutions and adaptations

15. Have you found any solutions that help you cope with online learning challenges?

- Yes ☐

☐

-No

16. If yes please describe the solutions that have worked for you

……………………………………………………………………………………

Section G: Future perspectives

17. How do you feel about continuing with online learning in the future?

- Very positive

- Positive

- Neutral

- Negative

- Very negative

18. What changes or support do you think are necessary to improve online learning for rural learners?

……………………………………………………………………………………………………
………..…………………………………………………………………………………………..

Section H: Additional comments

19. Please share your ideas and experiences with online learning amid the Covid-19 epidemic.

……
……

Thank you!

Appendix 2: Observation guide

Access to technology and internet connection

Teacher facilitation and support during online learning activities

Student engagement and participation in online learning activities

Social and emotional well-being

Appendix 3: Key informants interview guide

1. How did the shift to online education start in your area?

- What were your initial reactions and thoughts about moving to online learning?

2. Do you have access to reliable internet connection? If not, what are the main challenges?

3. Can you describe your typical learning environment at home?

- How does this environment affect your ability to participate in online classes?

4. What kind of support do you receive from your school/ teachers/ parents?

5. What are the main challenges you have faced with online learning and how have these challenges affected your learning experience and academic performance.

6. Have there been any solutions or adaptation that have helped you overcome some of these challenges

7. What changes or support do you think are necessary to improve online learning for rural learners in near future?