

# FROM PHYSICAL TO VIRTUAL LEARNING DURING COVID-19: CHALLENGES, OPPORTUNITIES AND LESSONS LEARNT

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## **ABSTRACT**

*The introduction of virtual learning advanced benefits such as lowered costs of education, greater flexibility, easy access and reduced need for physical infrastructure in economically viable nations. On the contrary, many economically challenged nations in the Global South experienced risks and challenges when virtual learning became the only way of learning. This study investigated challenges faced by the Zimbabwe education sector in integrating effective virtual learning practice into the secondary school system following the advent of Covid-19. Harare Metropolitan province was chosen as site for the study. A triangulation of research methods including an online survey and key informant interviews conducted with curriculum specialists, teachers, parents and learners, and a review of available literature, aided the collection of primary and secondary data for the study. NVIVO and grounded theory were used to analyse and organise the compiled data into thematic data sets, which were in turn used to theorize befitting findings for the study. Study findings established an array of challenges which reinforced each other to hinder effective learning during the lockdown. Substantial academic and policy research has focused on health specific impacts of Covid-19, while a few studies that have explored the effect of Covid-19 on education have not zeroed in on the context specific geopolitical risks of the pandemic on countries with challenged economies. This study sought to contribute to this knowledge gap. The study proffered recommendations for improving preparedness for virtual learning in secondary schools during crisis times.*

## **KEYWORDS**

*Virtual, education tools, Covid-19, education, curricula & Zimbabwe*

## **1. INTRODUCTION**

Focusing on a case of the Harare Metropolitan province, this study sought to establish risks and challenges faced by the Zimbabwe education sector in integrating effective virtual learning practice into the secondary school system during the Covid-19 lockdown. The study answered the following research questions: What was the role of education technologies in influencing the continuity of secondary school education after the Covid-19 lockdown? What challenges did teachers, learners and parents encounter while transforming from face-to-face to virtual learning? Which ICT tools did secondary level learners utilise most to access virtual learning? The study is presented thematically in five sections including the introduction and background, the literature review, the methodology section, the results and findings and finally the conclusions and recommendations.

The advent of the Corona Virus (Covid-19), whose first outbreak was experienced in China in 2019 created multiple challenges for global citizens, and one of them was how to adjust a system of education anchored around physical schools and face-to face learning (OECD, 2020). As part

of the measures to contain the spread of the virus, at least 188 countries, representing 91% of enrolled global learners shut down schools (UNESCO, 2020). A transitional process characterised by a creative deployment of institutions, learning and communication platforms that were traditionally thought of as permanently physical to virtual ones was the only way through which continuity in learning and other communication processes could be achieved (Turnbull, 2021).

The expediency with which policy makers and national governments globally implemented the changeover to virtual learning did not match the economic and social challenges on the ground for many nations, hence the transition was not smooth. A smooth transition would only be possible with full consideration of the geographies of insecurity that exist between nations, especially between the West and the Global South. The notion of geographies of insecurity brings to the fore the heterogeneity of global regions and nations, and the different ways in which they experience the impact of development trends and dynamics, such as national disasters, wars, climate change, to mention a few (Philo, 2012). As such the insecurities faced by the citizens in the Global South, and the measures that may be necessary to improve their security may not necessarily match the experiences of the elite in the West. Developing nations had no option but to, likewise, embrace virtual learning as the necessary measure to enhance affordability and accessibility of higher education and the plethora of challenges that came with it. Within this rubric, this study investigated the challenges faced by the Zimbabwe education sector in integrating effective virtual learning practice into the secondary school system since the advent of Covid-19.

The study findings emanated from a triangulation of a desk review of foregoing literature on Covid-19 and virtual learning, an online survey with 30 curriculum specialists and 35 secondary school students and key informant interviews with 35 secondary school teachers, learners and parents in Harare Metropolitan province. Thematic content analysis using NVIVO and grounded theory was effective in analysing the compiled data. Quantitative findings from the survey proved that while many teachers, students and learners faced resource and technical challenges to access mobile devices and internet, online technological tools remained the only possible means available to access academic information. Findings from the content analysis likewise concurred with the quantitative data findings, demonstrated through the seven key emerging themes which include inadequate qualified technology teachers, shortage of resources for acquisition and maintenance of state of the art learning tools, electricity and internet challenges, poor parental involvement, unavailability of legislated policy on technology usage, ignorance of technological know-how and techno-phobia.

The key argument in the study is that although mobile learning cannot replace physical learning, it remains a necessary alternative during lockdown periods because mobile technologies transcend geographic barriers. This being said, there is greater need to lessen the currently existing dynamic of geographies of insecurity, especially the economic and technological barriers, bearing in mind that pandemics know no geographical limitation in the manner that they affect various nations (Philo, 2012). As such, policy makers at national, trans-national, regional and global levels have to work together for realistic and context sensitive policies that can effectively address the myriad of challenges currently faced by developing nations in attaining effective virtual learning practices that match global standards.

## **2. BACKGROUND**

In Sub-Saharan Africa, 60% of youths between the ages of 15 and 17 are reported to be out of school (UNESCO, 2022) owing to various reasons other than Covid-19. Some of the reasons why

there is a huge school drop-out rate include poverty, child marriages, teen pregnancies and drugs abuse (Birchall, 2018).

There is evidence, though varied, which proves that Covid-19 many school learners dropped out of school as a result of Covid-19 in Zimbabwe. The Family Aids Caring Trust ZIMBABWE (Fact), pegged the figure of schools dropouts since pandemic began in 2020 at 20 000, while the Human Rights report (2021), estimated that 840 000 children dropped out of school during the COVID-19 pandemic. Non-governmental organisations (NGOs) in Zimbabwe estimated that 840 000 children dropped out of school during the COVID-19 pandemic (Human Rights Report, 2021). The Ministry of Primary and Secondary Education on the other hand contested the figures presented above, arguing that 290 children left school because of various illnesses, 5331 dropped out due to marriage, and pregnancy led to the dropout of 4676 children, bringing the total of dropouts countrywide to 10 297 for that year, half the number reported by the Family Aids Caring Trust. Over and above these three arguments, this study established that in a country with a huge rural-urban divide in terms of communication and information flow, access to technology and related resources, it would be difficult to come up with an etched in stone figure of school-drop outs during Covid-19. Firstly, the notion of school drop-outs itself would have to be clearly defined, given the reality that at one time all institutions of learning had to shut down for quite a significant period while policy makers, institutional leaders and the government jostled for ways of containing and dealing with the new phenomena of Covid-19. Adapting to the new situation through introducing virtual learning in schools was characterised by a general lack of uniformity and consistency. Furthermore, most of the rural schools in areas that have no electricity and internet services were not able to catch up with this new trend of virtual learning, until the end of the lockdown period.

### **3. LITERATURE REVIEW**

The COVID-19 pandemic caused exceptional global disruptions on people socially, politically and economically since the Second World War (WWII) (Kaisara & Bwalya, 2021). In the education sector, the pandemic caused closure of learning institutions, further increasing the rural - urban divide in access to education, knowledge and information, hence in the utilisation of information and communication technologies (ICTs). As such, close to 1,184,126,508 learners have been affected by school closures globally as a result of the COVID-19 pandemic (UNESCO, 2020). While it is undeniable that ICTs have been used for virtual learning for a long time in the most technologically and economically advanced nations, in Africa there is no agreement on when virtual learning became a practice in the education sector. This disparity can not only be attributed to the issue of scarcity of resources to access ICTs and internet, but also to the limited and lack of uniformity in the knowledge of ICT usage. In Southern Africa, use of ICTs can be traced back to the 1960s (Alkharang & Ghinea, 2013, Alkharang & Ghinea, 2013), while virtual learning started between 1990 and 1999 (Bagarukayo & Kalema, 2015; Hubackova, 2015). As far back as 2009, Donner and Gitau (2009) foretold that the future of Africa would be techno-centric. Rumanyika, Tedre, Mikko and Mramba (2019) likewise argue that Africa has the highest technology, especially mobile phone adoption rates in the world, further projecting this trend to remain so till at least 2025 (GSMA, 2019).

In Zimbabwe, although many private schools and elite government schools were already accustomed to the usage of ICTs as tools of managing knowledge and increasing engagement (Gunga & Ricketts, 2007; Mohammadi, 2015), at the onset of the lockdown very few schools already had plans, modalities and a culture of virtual learning, or of using ICTs as a remote mode of instruction information and learning content (Bhuasiri, Xaymoungkhoun, Zo, Rho & Ciganek, 2012). This being said, success of integrating online education technologies in education cannot be generalized from the national to the global levels, as it was anchored on social determinants of

successful virtual learning such as the previously prevailing economic, social and political conditions in any given context. The capability of policy makers to plan for inclusive and effective education service delivery at national, regional, and global levels should address the context specific economic strengths or vulnerabilities of nations, as a prerequisite for making suitable recommendations, decisions and reforms. Global institutional power structures and mechanisms are organised in a manner that naturally gives developed nations hegemony over developing ones, in turn breeding systems that saliently deploy discriminatory and skewed policies and services in a top-down manner. This argument links this study to two theories - the theory of geographies of insecurity and the theory of geographies of economic inequality.

The notion of geographies of insecurity emphasises firstly the fact that Covid-19 was inherently geographical in its impact on society and as such, it rendered nations to different levels of vulnerability, each according to its geographic positioning and its economic status in relation to China (Philo, 2012). After its outbreak in China, the pandemic spread first to countries not only with intense geographical proximity to China, but also to those with stronger economic ties and relations with China. Covid-19 thus took advantage of the forces of globalisation to spread to various countries (Amdaoud, Bourdin, Costanzo, Iatu, Ibanescu, Jeanne, Levratto, Noiret and Succurro, 2020). This postulation relates to the theory formulated by Amdaoud, (2020), the theory of spatial auto-correlation, which likewise helps to clarify the patterns in the spread of Covid-19. The theory of spatial auto-correlation contends that close geographical units are more affected than distant geographical units. As such, these spatial differences in time frames within which Covid-19 reached different countries determined first the impact of the epidemic on citizens and on development processes. Secondly, these spatial differences also determined the response rate of various nations to the effects of the pandemic, the decisions for lockdown periods and levels, as well as the responses in couching suitable stop gap measures for various services, and in this case for the virtual learning services. As such, while the first Covid-19 lockdown was enforced in January in China, in Zimbabwe, the first lock-down was enforced three or four months later. China being a technologically advanced country muted the idea of transitioning from physical to virtual learning as early as January 2020. Thusly, it took Zimbabwe longer to figure out modalities for transitioning to virtual learning than it took China. Furthermore, when virtual learning finally took off, it was possible only for a few learners in some urban areas, while the majority of learners in both urban and rural areas could not afford it, reality that leads this argument to the notion of geography of economic inequality (van Ham, Manley & Tammaru, 2022).

The geographies of economic inequality predicts the spatial categorization of both learners and teachers by income, both vertically and horizontally, as well as the associated modeling of opportunities and affordability (van Ham *et al*, 2022). Agreeably, the usage of ICTs landed people into different levels of vulnerability, depending on their geographic positioning as well as their economic and social standing. Such geographies of inequality thus range on a spectrum: differences in access between individuals and among groups in urban areas where, although there was internet access, some students and teachers could not afford the expenses associated with acquiring ICT gadgets and internet, and differences in access and affordability among urban and rural residents, especially in those remote rural areas where access to internet has been for long devoid. As such, the disruptive manner of Covid-19 in the education sector was on universal historic record.

The OECD (2020), supports both theoretical arguments, positing that in times of crisis, a holistic approach to education addresses students' learning, social and emotional needs. This includes the need to take care of the needs of marginalised students, who are more at risk of increased vulnerability and are less likely to receive the support that they require, for example when they fail to acquire the required ICTs and internet services. Material disparities among students have

considerable effects on students' sense of belonging to schools, as well as on their feelings of self-worth (OECD, 2020).

The Zimbabwe education sector, like education sectors in other countries globally, utilised all opportunities possible to use ICTs for virtual learning purposes during Covid-19. Mare (2013) and Rambe and Bere (2013), argue that even before the advent of Covid-19, the usage of ICTs is an unavoidable development that has had a huge transformative power on various facets of life in the history of African development. Covid-19 was thus, a catalyst to development through increased usage of ICTs which became inevitable owing to the reality on the ground. The term 'increased usage' can also refer to aspects of inclusion and participation across the gender and class divides. Where virtual learning technologies and practices used to be a preserve for the affluent, Covid-19 made it a necessity, prompting even the less affluent to stretch their means to ensure that they had access to and usage of technology, which became inevitable. Shen and Ho (2020) argue that virtual learning has positively impacted on the performance of students, on their interest in learning as well as on learner performance wrought by the attraction that ICT usage brings (Zongozi, 2020). Virtual learning has also promoted massive investment in ICT infrastructure and technology, as well as in electricity and usage of other power sources that promote internet usage, such as solar power and related power batteries. This paper however problematizes the concept of "increased usage" of ICTs versus the concept of success of virtual learning during the lock-down, arguing that increased usage does not necessarily equate virtual learning success. The fact that many citizens invested in ICTs does not necessarily mean that they effectively used the ICTs for learning purposes perse.

The correlation between massive investment in ICT infrastructure, tools and knowledge and the success of virtual learning practice in Africa is likewise contested by a number of scholars. Awidi and Cooper (2015), in their case reference to a Ghanaian university, highlight a contestation between investments in ICT infrastructure and the lack of clear corporate e-learning strategies and policies that facilitate successful virtual learning. The major setback of virtual learning is mainly centred around an institutional obligation to reproduce face-to-face classrooms online by means of existing distance education infrastructure (Turnball, 2021; Arasaratnam-Smith & Northcote, 2017). Another scholar, van Stam (2021), also established that in Africa, the success of internet service provision depends on the effectiveness of the mobile service operators. Absence of context specific policies, plans, rules, regulations and legislated implementation frameworks have potential to contribute to e-learning failure, as the same ICTs can be used for negative learning such as access to information on drugs, pornography and trafficking, to mention a few (Barteit *et al*, 2019). Exploding what they term 'myths' around e-learning, Njenga and Fourie (2010) argue for a balance between successful virtual learning and sanitized learning through ICT usage as a trend. Munro (2018), citing the over-rated claims for success and the over publicization of virtual learning success in the United Kingdom, likewise propounds warnings against education Neo-liberalism, further arguing that the over emphasised usage of technology can result in commercialization of tools for education, and into subsequent commercialization of education.

#### **4. METHODOLOGY**

A triangulation of quantitative and qualitative research methods was used to gather primary and secondary data. Methods utilised included an online survey with 65 participants sampled from a population of curricula specialists, teachers and learners as well as with 35 key informants, also sampled from a population of curricula specialists, teachers, parents and learners. The response rate for sampled study participants was 35 for the online survey (54%) and 24 for the key informant interviews (69%). A review of available literature further aided the collection of primary and secondary data for the study. Using key words to search, fifty three published online

journals, reports and articles were identified from the database search. A careful scanning of the identified papers was done to eliminate all papers that were not directly related to the topic under review. Finally, a total of thirty nine articles were reviewed. Quantitative data were analysed and presented through tables and charts, and qualitative data was presented under relevant themes.

## 5. FINDINGS

The study sought to investigate challenges faced by the Zimbabwe education sector in integrating effective virtual learning practice into the secondary school system in Harare Metropolitan province, since the advent of Covid-19. We present findings from the both the quantitative and the qualitative data.

At the outset, the study sought to establish the role of various educational technologies in influencing the continuity of secondary school education after the Covid-19 lockdown. The findings established two types of education technologies that were utilised for virtual learning in Zimbabwe during the Covid-19 lockdown as computers and mobile phones. Hundred percent of the respondents indicated that both these education technologies played a major role to facilitate the transition from physical learning to virtual learning. The specific roles of computers included accessing learning platforms such as Google Classroom, Zoom, Moodle and Whatsapp groups, typing of notes and assignments, as well as storing learning notes and related materials. Computers also better facilitated the reading of text books owing to their screen surface which is larger than that of a mobile phone. The role of computers was also highlighted as that of transmitting information and documents through email, blue tooth or Send-it. The respondents indicated that mobile phones had the same roles as that of computers, highlighting however that it was difficult and time consuming to read big text books and bulky notes from the small surface of mobile phones. While those respondents who did not possess computers still used mobile phones for all learning tasks, all respondents generally agreed on the ideal role of mobile phones as that of communicating with teachers and school mates, as well as transmitting documents and related information to school mates and teachers. All respondents also agreed that where there is no direct internet service installed, it is more affordable to use a mobile phone than a computer to send documents from a distance, as blue tooth and share it can only send to devices in proximity.

Secondly, the study sought to establish which ICT tools were most utilised by secondary school learners to access virtual learning platforms during the Covid-19 lockdown.

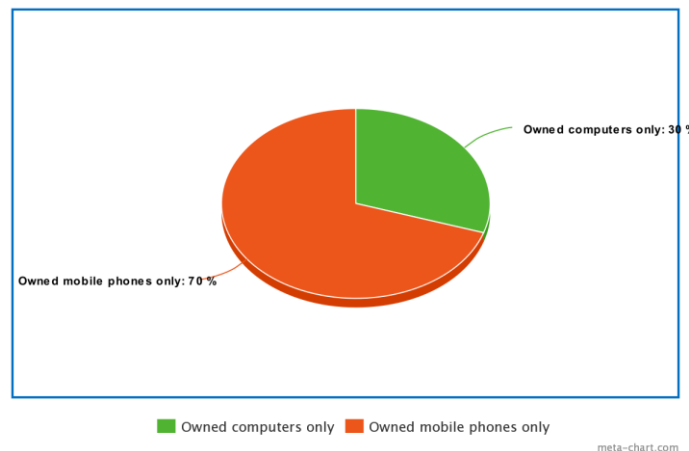


Figure 1: Types of education ICT tools used

While all the respondents accessed learning material either through computers or through mobile phones, the mobile phones, which are less expensive than computers, were established to be the primary devices used. Only 30 percent of the students and teachers who participated in the study attested to owning a family computer or a personal one and a personal mobile phone, whilst 100 percent of the responding students and teachers attested that they owned either a family mobile phone or a personal one, because mobile phones were found to be more affordable than computers.

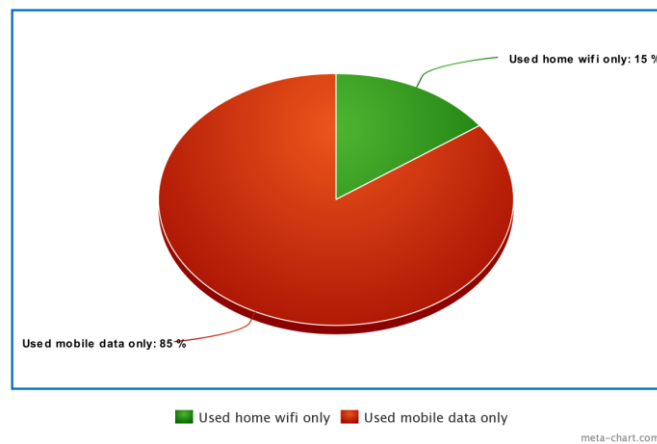


Figure 2: Type of internet service used

Furthermore, the majority of the respondents (85%) used mobile data packages to connect to the internet and only a few (15%) indicated that they had a home WiFi connection and thus had a choice to use either the installed WiFi service or the data, which again, makes mobile phones the more utilised than the computer. These findings concurred with foregoing research findings by a number of scholars, as noted in the reviewed literature. Donner and Gitau (2009) predicted that the future of Africa is anchored on usage mobile phones. Further establishments were that there is evidence to prove that mobile phone adoption rates in Africa are the highest than in the world (Rumanyika, Tedre, Mikko & Mramba, 2019). Mobile phone adoption rates were further projected to remain highest in Africa till at least 2025 (GSMA, 2019).

The final objective of the study was to establish the challenges that teachers and learners encountered while transitioning to virtual learning during the Covid-19 lockdown. The key finding under this objective was that virtual learning is very important for secondary school children in Zimbabwe as a complimentary method of learning in both times of crisis and out of crisis. The key argument was that virtual learning for secondary school learners was faced with a many of challenges at the time of inception, and that these challenges still exist in their myriad forms, and as such, virtual learning cannot entirely replace physical learning for secondary school learners in Zimbabwe. The data presented by the respondents was organised into 5 relevant themes, also supported by direct quotes that are presented below each thematic finding. In the following section, the study expounds on the identified challenges, some of which expound on some of the themes already identified in the presentation of quantitative findings above. All the findings put together are critical determinants of successful virtual learning for secondary school learners that policy makers should consider to roll out in full force both at policy and practical levels, in order to establish permanent virtual learning service provision practice that can remain effective both in crisis periods and in out of crisis periods.

## 5.1. Internet Accessibility Challenges

All the study participants, comprising curricula experts, learners, parents and teachers concurred that both teachers and learners experienced challenges in gaining access to the virtual learning and research platforms, as well as in accessing their emails for communication purposes. The most outstanding quotes selected from the data are presented anonymously below:

Quote 1: *It was always frustrating to get cut off in the middle of the lesson. Network connection is always falling where I live, and sometimes I could hardly access the learning platform. I had to rely on notes sent by a colleague after the lessons.*

Quote 2: *I often got booted out of the classroom whilst the lesson was on, when the data ran out. Downloading materials sent through email by the teachers was likewise very expensive. Most of the times virtual learning left me discouraged.*

Quote 3: *There was always a mismatch between the allowance that I got from the school for mobile data bundles and the actual usage time that I got from the data bought. Many a time the data got depleted before the end of the lesson or in the midst of an email. I ended up using my own data to ensure that I provided service to the learners, and in most cases this was never compensated.*

Quote 4: *My parents could hardly afford the mobile data expense because my father got out of employment during the lockdown. It was hard to keep up with the virtual learning pace without enough internet access.*

Quote 5: *There are times when my daughter needed to go to the internet cafe in town to utilise Wifi because our Wifi units often ran out before month end, and the budget would not permit us to top up the units. Many times I would fail to support her with bus fare to commute up and down. Furthermore, while others would take risks and obtain a security pass to go to the internet cafe, I always found it to be a security risk for my daughter to travel.*

Quote 6: *My typing skills were terrible, I had gotten used to manual presentation of assignments. It was always hard and slow to cope.*

Quote 7: *In Google classroom my problem was that I was always inaudible each time I wanted to make a contribution. I could hear what the teacher and my classmates were saying but I could not be heard. The microphone of my device was not working properly all the times.*

Quote 8: *As Education Officers we were in such a dilemma, we had no way of monitoring that learning was being done according to expected standards because it was hard to listen in to various learning platforms at the same time. Our mode of monitoring during physical learning is attending classes to monitor the teacher during lessons. It was impossible on virtual learning platforms.*

Quote 9: *I had a salary cut after the lockdown. I could not afford a Wifi facility for my children to join the online learning. It was unfair to introduce online learning because some children lost out on learning.*

At a general level, Zimbabwe has a challenged network coverage system, especially in areas that are remote from the city centres (van Stam, 2021; Gwaka, May & Tucker, 2018). Internet



services are often congested and there are a few indigenous internet service provision companies in Zimbabwe, namely Tel One and Econet. These companies rely on imported hardware, in a country that legally utilizes local currency, often resulting in shortages of such hardware. The reality with internet access in Africa is that mobile network operators manage fixed infrastructures that house a radio access network with base stations, a broadcast network providing the communication spine, and a core network with alternating facilities and database servers handling user information (van Stam, 2021). As such, what citizens are able to access, and the speed with which they access the internet, all depend on the viability of a given mobile network provider. Where there is limited competition like in Zimbabwe, effectiveness of internet access is affected. While a few rich people from the rural areas could access mobile phones and internet services, the speed with which they accessed internet still remained a huge challenge to contend with. As such, comparing the state of secondary school learners from Zimbabwe with that of secondary school learners from countries like China will further reveal how virtual learning was indeed gendered in all spaces, from the micro to the macro levels, further confirming the notions of geographies of insecurity (Philo, 2012) and geography of inequality (van Ham, Marley & Tammaru, 2022) already discussed in the theoretical framework sections. Accessibility, as established by Alshehri, Rutter and Smith (2019), is a very important variable that influences learners, parents and teachers perceptions of virtual learning, while also affecting the delivery rate of learning, in any context.

## 5.2. Lack of Regulated Policy on Usage of Technology Usage

Zimbabwe also embraced the transition from physical to virtual learning in all schools that could manage the dynamic, and these were mostly private schools and a few state run institutions. The lack of preparedness in terms of resources and time frames, transition to virtual learning was done haphazardly, without any policies, rules and regulations in place to ensure uniformity in service provision. As such, virtual learning benefited only a few, and its effectiveness, impact and potential to replace physical learning during Covid-19 remain questionable. The following quotes were likewise selected from the data, for their outstanding nature:

Quote 8: *The challenge was to ensure that we caught up with the global trends, but we had no binding laws, policies and regulations for doing virtual learning. As such, it was done haphazardly, creating lots of gaps and inconsistencies in the manner of learning and delivery of teaching services.*

Quote 9: *Internet provision in this country depends on the capability and willingness of the service provider to deliver the service. The major challenge is that you cannot sue a service provider for failure to provide network service because there are no policies for such.*

Quote 10: *It is difficult to regulate without laws and policies. Virtual learning was not done systematically. Each school or teacher used the learning platform that was at their disposal, which did not enable learners to benefit the same. There is need for policies on virtual learning to be put in place.*

Again, most citizens do not have internet sources installed in their homes, and rely on mobile data networks which are too expensive to sustain effective daily learning, as established by the findings in Figure 2. It is also noteworthy that the lockdown affected income levels for most parents, who either had their jobs terminated or their salaries cut, and as such, money for mobile network expenses became a real challenge. This finding concurs with van Stam's (2021) postulation that the success of accessing digital platforms in Africa depends on the viability of mobile network operators (van Stam, 2021). All these factors combined, affected both the

teachers and the learners access to learning platforms. Virtual learning thus, remained a preserve for the affluent who could afford both the mobile phones and the internet data, and also for those in the city centres where there is internet coverage.

### **5.3. Ignorance of Technological Know-How and Inadequate Qualified Technology Teachers**

Before the advent of Coovid-19, not all schools in Zimbabwe made the study of ICTs compulsory. Some learners and teachers did not have access to computers, except to mobile phones only. As such, the period of transitioning to virtual learning became for some, the time to seriously learn and get used to using ICTs. This delayed the uptake of the virtual learning exercise, as well as affected the uniformity of the exercise, as some learners and teachers would always lag behind. This challenge affected the effectiveness of virtual learning during Covid-19.

Quote 11: *What we needed as preparation for the transition to virtual learning was the rolling ` out of technical lessons on how to use technologies for learning, for both teachers and learners alike. This was not possible given the crisis that was at hand. It was a huge setback. We knew this as education officers but there was nothing that could be done under the circumstances.*

### **5.4. Lack of Adequate Parental Involvement in Virtual Learning Processes**

Almost all teachers and learners who took part in the study highlighted many parents could not assist their children with home work. Secondly, virtual learning did not facilitate any kind of motivation on the part of learners and enough feedback on the part of teachers. Higher secondary school learners argued that although they were mature enough to manage their learning on their own, they used to benefit from the feedback that parents got from their teachers on parent day events, when parents came for one on one encounters with their teachers. These feedback sessions, in the learners' views, helped them because teachers were able to make the parents understand some of their needs especially for material and moral support, in a manner that they as children could not make their parents understand. In the view of teachers, time constraints and lack of technological know-how, as well as lack of internet facilities made it difficult for such feedback sessions to be organised with all parents. The teachers also highlighted that there was very little involvement of parents in terms of assisting their children in lower secondary school with homework because families did not have enough gadgets; some mobile phones were too small to accommodate more than one person at once for serious work.

Quote 12: *We got cut off from the parents, who are very important allies in the learning process. With virtual learning you cannot interact with the parent because there is shortage of gadgets, there issue of data bundles and also some of the parents did not have knowledge to access the learning platforms.*

Quote 13: *The virtual learning opportunity became both a blessing and a scare. Learners got too exposed to technology, spending half their time on-line. Some of them took advantage of this to divert to adult sites, which disturbed their learning. Parents at the same time could not monitor this all the time as most students used mobile phones, which do not permit interaction with others.*

## 6. DISCUSSIONS

Overall, the results from this study revealed that the operationalisation of virtual learning in Zimbabwean secondary schools during Covid-19, in the absence of physical learning, caused a number of challenges for both learners and students in Zimbabwe. This confirms findings by foregoing researchers who also established that due to its multiple complications, virtual learning has only succeeded in presenting promises that it could not accomplish (Alkharang & Ghinea, 2013). While these scholars were referring to a period prior to Covid-19, the finding is indeed still applicable now, further showing the complications associated with virtual learning. The benefits of virtual learning cannot be over emphasised, yet the rendition for these benefits to be realised is a prior fulfillment of other requirements that make the practice work for all.

While virtual learning is indeed good in terms of transcending the time and cost hurdles that physical education brings, it can only work effectively and inclusively as a compliment to physical learning, but never as an alternative to it in this context, to avoid the exclusion of the majority of learners and teachers, as Uppal (2018) and Njenga and Fourie (2010) opined that learner attrition rate increases in virtual learning as opposed to face to face learning. Virtual learning can only work effectively for all after a lot of considerations such as policy reforms, infrastructural development and training of trainers has been implemented first, as preparatory measures. Perhaps the Covid-19 era was a learning period for Zimbabwe, for the whole of Africa, and for the globe, on what needs to be done to make virtual learning a success both in times of peace and in times of crisis, since *ad hoc* disaster risk mitigation may pose more challenges than solutions.

## 7. CONCLUSIONS

I conclude that the transition from face-to-face learning to virtual learning during the Covid-19 lockdown, was a highly critical move which remains important for secondary school education in Zimbabwe and beyond. However, given the resource and other identified complexities in this country, virtual learning was not highly effective as the better part of the population of students, teachers and parents were excluded from enjoying its benefits. In Zimbabwe and similar countries in the Global South, virtual learning can only be effective as a complimentary method of learning to physical learning, not as an alternative to physical learning, in both times of crisis and out of crisis.

## 8. RECOMMENDATIONS

There are a number of considerations that policy makers should put into action to roll out effective virtual learning practice that can remain effective both in crisis and out of crisis times:

The government must invest more in state of the art ICTs in both rural and urban areas in order to bridge the inequality gap rural and urban citizens. Furthermore, the State should ensure that all schools and homes are electrified or have access to alternative sources of energy that enable them to use ICTs and internet services. It should also be the prerogative of the State to provide viable internet services to all citizens at affordable and subsidised rates. In the education sector government should likewise roll out training for ICT usage to teachers and education policy makers by providing ICT refresher courses as a compulsory requirement to all teachers. The government should also formulate and implement binding policies in the country, to make internet service providers commit to efficient service delivery, as well as putting in place policies and regulations on how schools should provide online teaching services to learners.

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