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Lessons from the Covid-19 Pandemic: Can Public Primary and Secondary Schools in Lusaka District of Zambia use Blended and Distance Teaching and Learning?

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Abstract

The COVID-19 pandemic has caused major disruptions in most fields of human endeavor and education seems to be one of the most hit. In Zambian, schools' face-to-face teaching and learning had been stopped on two occasions when the spread of the corona virus caused several deaths and severe illness. Some institutions of learning especially, in higher education pivoted to some form of technology-mediated teaching and learning. However, can public primary and secondary schools also manage to implement their curriculum using blended and distance learning? In this study, a mixed method research approach was used to analyse experiences of 200 teachers, 400 learners and 20 head teachers in arriving at lessons that can be drawn from the COVID-19 disruptions in terms of the use of blended and distance teaching and learning. The findings showed that the majority of teachers had no pedagogical competencies to teach using blended and distance methods since they were only familiar with face-to-face methods. It was also revealed that blended and distance teaching and learning would require digital devices and platforms which were not available to both teachers and learners. It was for this reason that both school authorities and learners only waited for the pandemic to minimize or finish before school activities could resume. We conclude and recommend that the Ministry of Education in Zambia needs to invest heavily in improving school infrastructure, up skilling teachers in ICT and provide digital platforms to schools if blended and distance education are to be used since living with the COVID-19 pandemic seems to be the new normal of the world status.

Keywords: **Blended learning, Distance learning, Face-to-Face, COVID-19 Pandemic, Zambia**

1. Introduction

The UN Sustainable Development Goals, a blueprint for creating a more just world, identified "quality education" as its fourth goal. One of the wings of that goal is ensuring that by 2030, all young people have the means to complete a free, equitable, and quality primary and secondary education. With the advent and disruptions of the coronavirus disease (COVID-19) pandemic, this goal seems to be facing a lot of challenges especially in developing countries such as Zambia where the education system is already plagued with a number of drawbacks. In 2000, Thornburg had noted that the world was on the cusp of a completely "new era", and changes were to be made in education to ensure that all students leave school prepared to face the challenges of a redefined world. Nineteen years later the world was engulfed with a major disruption due to the COVID-19 pandemic which forced institutions such as schools and universities to close without knowing when exactly teaching and learning would possibly resume. The optimism of the new century as expressed by Thornburg and the clear focus of the UNs SDGs on education seem to be faced with a new reality of the COVID-19 pandemic. Based on statistics by UNESCO (2020), as of March 23, 2020, 1.7 billion of school and university going young people around the world were unable to go to learn in their schools and campuses. It is important to note that this figure accounts for 90 percent of the world's student and learner population. In the wake of this situation, a consequence of the COVID-19 outbreak, most institutions of learning, especially universities, migrated to distance and blended teaching

and learning. This change in the teaching and learning approach was done without gauging the challenges of teaching an entire curriculum in that way as noted by UNICEF (2020) in their global analysis of remote learning. The advent of the COVID-19 pandemic in 2019 has indeed changed the educational landscape to the extent that educational authorities and their stakeholders had to rethink the use of the traditional face-to-face teaching and learning approaches to other means which would agree with the new normal of social distancing and less class room congestion.

In Zambia, at the time of this study, schools had been closed on two occasions and when they did reopen, strict measures were put in place to fit into the new normal of social distancing. This meant that class enrollments which were in some cases above 60 learners had to be reduced to smaller ones and time for learning had to reduce so as to accommodate all the other streams and share the available classroom space. Two thoughts attracted researchers' attention in this study. These were; (i) how did learning proceed when schools closed? and (ii) what happened when time for learning was reduced at the time schools finally reopened? Given the COVID-19 circumstances and restrictions these two questions pointed to the need for distance and blended teaching and learning in Zambian primary and secondary schools (Mphahlele, Seeletso, Muleya & Simui, 2021).

UNESCO (2020) explained that to provide education through distance teaching during the COVID-19 pandemic school closures demanded that teachers design activities to help learners actively explore and construct their understanding of a topic; plan flexible learning tasks and provide feedback so that learners can progress at their own pace; provide learners with opportunities to stay connected with peers. This view is actually shared by scholars such as Carlana and La Ferrara (2021) who noted that distance learning for most primary and secondary schools in developing countries would require a lot of teacher involvement. There should also be opportunities for learners to learn through discussion and communication, and feel empowered. Teachers must also assist learners in managing their learning by setting personal goals and monitoring progress. Given the demands of distance teaching and learning, we questioned if this was possible in the case of Zambian primary and secondary schools in Lusaka district.

On the other hand, blended learning is a common approach in the Higher Education sector where students learn both on and off-campus, and consequently there is a myriad of research on this topic and there is a likelihood that facilitators of teaching and learning at this level have acquired and developed pedagogies and facilities for this approach of educational provision (Pima et al., 2018). In Zambia, however, primary and secondary schools are only familiar with the face-to-face approach of educational provision.

Problem Identification

Since the introduction of formal education in Zambia from the precolonial times, primary and secondary schools have always used the face-to-face mode of teaching and learning (Mwanakatwe, 2013). Moreover, Colleges of Education and Universities that prepare teachers around the country also graduate teachers with competencies meant for face-to-face educational provision. Although the Ministry of Education (MoE) has been running lessons on its radio, called the Educational Broadcasting Service (EBS), the availability of this initiative has mainly been supplementary and not used as one of the main forms of delivering education to both primary and secondary school learners. In fact the EBS radio channel is not widely known in the country as alluded to by Zulu et al (2021). However, with the abrupt outbreak and disruptions brought about by COVID-19, there seem to be an inevitable need for MoE in Zambia to provide quality education by means of blended and distance learning approaches. Studies have been done about learning using Zoom and remote learning in Mathematics education during the COVID-19 disruption in Lusaka and Kitwe respectively by Zulu et al. (2021) and Mukuka et al. (2021). However, these studies did not focus on blended and distance learning of both primary and secondary schools. Moreover, the two studies were specifically focused on the teaching and learning of Mathematics only. Thus, this study attempted to find out if the primary and secondary education systems in Zambia were in a position to effectively provide quality education to learners using distance and blended teaching methods, given the fact that the COVID-19 situation seems be changing the interaction dynamics of the people around the globe, including in Zambia.

Theoretical Framework

Herlo (2017) rightly noted that if we consider what curriculum theory proposes and postulates that the way of learning process is more important than the assimilation of content, it is obvious that learning to learn what is necessary today for tomorrow is the real challenge for any learning theory and indeed for any education system. To know how to know and apply those known in real life with a positive attitude is even more demanding in the era of the COVID-19 pandemic where learners have to sometimes learn remotely. This is so because a lot of learning initiatives and programing are to be managed by learners. This study was informed and supported by the learning theory of connectivism which was propounded by Siemens (2004) who explained that connectivism has paved the way for a new model of learning, adequate to knowledge society, in which learning is a process of connecting specialized nodes or information sources because the Internet has made a huge shift into the understanding of the knowledge nature. Siemens coined the term 'connectivism' to describe learning as networks and according to the new learning paradigm, and that knowledge is created beyond the level of individual human participants, and is constantly shifting and changing. Most learners in primary and secondary schools in Lusaka are digital citizens of the 21st century who should find learning easily facilitated by their teachers through blended and distance learning given that the internet has made communication, sharing and growing of

information much easier and faster. Siemens (2004) and his colleague Downes (2006) further explained that in the 21st century age, due to the information explosion, learning is not fully under the control of the teacher since technology performs many of the operations such as information storage and retrieval that were previously performed by humans. Accordingly, some knowledge will reside in machines while some will be in humans. The challenge for teachers and educational authorities, therefore, is how to design instruction for both machines and humans, and how the two can interact with each other. It is on this premise that researchers in this study thought this theory would help understand how teaching and learning is organized for blended and distance learning in the face of the COVID-19 pandemic given that the use of ICT can be relied upon to propel and continue with teaching and learning despite the COVID-19 disruptions which lead to abrupt school closures.

Research Questions

The main research question that scholars wanted answered in this study was whether primary and secondary schools in Lusaka district could employ blended and distance teaching and learning approaches in providing education since the COVID-19 pandemic had changed the educational land scape to the extent that effective learning in schools was not always assured due to closures and restrictions in learning hours and number of learners per class. In order to unpack the different facets of this question the following specific questions were to be answered;

i. How did primary and secondary schools in Lusaka district manage the teaching and learning processes during and after closures due to the COVID-19 disruptions?
ii. Did teachers have pedagogical competencies to facilitate learning using blended and distance approaches?
iii. What type of digital devices, e-platforms and digital literacies did learners and staff in schools have access to in order to employ blended and distance teaching and learning approaches?
iv. How can teaching and learning effectively continue regardless of the uncertainties of the COVID-19 pandemic?

2. Methodology

In order to find answers to these questions researchers in this study employed the pragmatic research paradigm of the mixed methods world view.

Research Design

The convergent parallel design which is sometimes referred to as convergent concurrent design was used to collect both qualitative and quantitative data from learners, teachers and head teachers in primary and secondary schools in Lusaka district. Scholars such as Onwuegbuzie and Frels (2013) argued that the key focus of a convergent parallel approach, as with any other mixed methods approach, has to do with priority and sequence. In terms of priority, both qualitative and quantitative data sets were given the same weight. As for sequence, both quantitative and qualitative data were collected at the same time. However both datasets were analysed separately, and then compared the findings of both datasets and finally made interpretations. Figure 1 is an illustration of the research design in question.

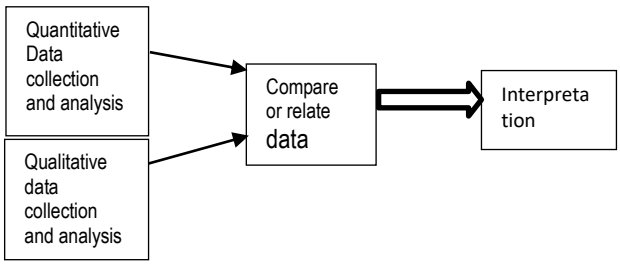

Figure 1: The Convergent Parallel Design (Adopted from Creswell and Creswell, 2018)

Population and Sampling

Using school registers from the District Education Board Secretary's office in Lusaka, schools were stratified into two groups of primary and secondary, then using simple random sampling ten schools were sampled from each stratum, giving the study twenty schools. From each of the secondary schools that were sampled, grades 11 and 12 learners were targeted since they were in their senior grades and have had a longer experience in school. As for primary schools, grades seven and six were targeted since they were thought to be in the position to provide intelligible responses because they were in senior grades at primary school, too. For each grade in every school, learners were stratified into two stratum of boys and girls and then using simple random sampling ten learners were sampled from every stratum and thus each school provided the study with twenty learners and thus having a sample of 400 learners for the study. As for teachers simple random sampling was used to sample ten (10) teachers from every school, thus providing the study with 200 teachers. A head teacher of every school that was selected was purposively sampled since they were to give key information to the researchers regarding the management of teaching and learning through blended and distance modes.

Research Instruments and Quality Control

Questionnaires with both open and closed ended questions were used to collect data from teachers and learners while interview guides facilitated the collection of data from head teachers. The use of the two instruments, interview guides and a questionnaire, helped to triangulate the data since some questions were exactly the same for teachers and learners. Member checking was also used as a way of ensuring validity of what was collected from the respondents. In order to ensure reliability in this study, a pilot test was conducted and responses were scrutinized to ensure that they were giving consistent responses. For instance, the questionnaire was piloted in five schools in

Kafue and Chilanga districts and the information was analyzed into descriptive statistics of frequencies and percentages using the SPSS version 20 and the Cronbach's Alpha test was used to calculate reliability. Pallant (2007) stated that a value of 0.08 is seen as an acceptable value for Cronbach's Alpha and values lower than 0.08 indicated unreliable scale although other scholars still argue that even 0.06 would still be acceptable. Most questions in the questionnaire had indicated a Cronbach's Alpha values of 0.08 and above but those that had values lower than 0.08 were corrected and modified before the actual collection of data in Lusaka schools. In order to ensure a high percentage of questionnaire return, sampling of learners and data collection were done on the same day. This also helped the researches to collect data that was not altered by participants who could seek guidance from other members of the school who may not be involved in the study.

Although there are arguments to accept the trustworthiness of qualitative findings, yet, criteria for ensuring rigour in this form have been in existence for many years which include credibility, transferability and confirmability as explained by Shenton (2004). These criteria are extremely important in a qualitative approach and the following is a description of each criteria and strategies that were employed as to meet them. In this study, credibility was addressed by prolonged engagement with head teachers as well as giving them enough chance to express themselves. Further, member checking was employed by asking the interviewees to clarify some responses which could have seemed ambiguous to the researchers. Triangulation was employed so as to ensure conformability. In other words, this meant that the findings were based on participant's responses and not on any potential bias or personal motivations of the researcher. This also helped to making sure that researchers' bias did not skew the interpretations of what the research participants said. Transferability refers to the extent to which the reader of the particular study is able to link the findings of that study to her or his own context and addresses the core issue of "how far a researcher may make claims for a general application of their theory (Gasson, 2004). This was ensured in this study by providing sufficient information about the research, the research context and participants responsibility in it.

3. Findings and Discussions

The main findings of the study as presented in this section are related to four significant dimensions which have also been discussed so as to give a clear interpretation and understanding of whether public primary and secondary schools in Lusaka district in Zambia can use blended and distance educational provision approaches during the time of the COVID-19 disruptions. These are as follows;

Teaching and Learning during and after Closures

All the respondents were asked about how teaching and learning was conducted during the closures and when schools reopened. The head teachers from both primary and secondary schools reported that no form of learning was facilitated in their schools when schools were closed. Moreover, when schools reopened they reported that learner's time was reduced so as to accommodate all learners given that more streams were created so as to decongest the classrooms. For instance one head teacher from a primary school explained that;

> *As you may be aware, most of our classes are overenrolled with numbers in some classes reaching as high as 87. Thus, when schools reopened, we had to reduce the number of learners per class and then that meant having more streams and reducing the number of learning hours for each stream so that all can have a chance to learn. Some teachers had to teach two to three streams.*

A head teacher from a secondary school also said that;

> *There was no form of teaching and learning that was taking place when schools were closed. Schools closed and that was it. All we did was to indefinitely wait for the next directive of reopening. But when we did reopen it was challenging to observe social distancing. So numbers of learners were reduced per class as was recommended by the Ministries of Health and Education guidelines.*

Respondents were also asked to indicate if blended teaching and learning was practiced as a way of catching up with the lost time. All head teachers noted that it was not done. For instance a head teacher from a primary school said that;

> *It was practically impossible. To begin with, teachers did not have time for that kind of teaching since they were continuously engaged in school. But even if they were available, the school and even the teachers and pupils do not have the means to do so.*

A head teacher from one secondary school also explained that;

> *Blended learning was not possible, teachers were so busy with the number of streams created and for your own information, some teachers were actually sick from COVID-19. Blended learning is possible if the teachers have the skills, devices to use and the time. But pupils will as well need to have the devices and the internet to use too. And as things are, most pupils do not have access to e-learning facilities. It is complicated.*

Learners were also asked to indicate in their questionnaire on a five point Likert scale about some of their learning experiences during and after school closures. Table 1 gives the analysed summary of their responses.

What is in table 1 is a clear confirmation of what head teachers explained during the interviews. For instance over 90% of learners had no contact with teachers during the closure periods and even when schools reopened, 82% of learners were not given extra work to do at home so as to catch up with the lost time. Although only 34% had

learning material to use at home during the closures, 81% were not able to follow television and radio lessons that were provided by the Ministry of Education at the time that schools were closed. This scenario reveals the challenges that the primary and secondary school system in Zambia has in terms of doing distance and blended learning. From the school administrators' point of view and that of the learners, the Zambian education system does not seem to have a conducive environment and capacity for distance and blended teaching and learning.

Table 1: Frequency and percentage distribution of learners learning experiences during and after school closures (n = 400)

Learners Learning Experience		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Teachers made follow ups and reached me to teach and provided learning material when schools closed	*f*	273	107	0	20	0
	%	68.25	26.75	0	5	0
I called my teachers and asked for learning material when schools closed due to COVID-19	*f*	0	333	0	47	20
	%	0	83.25	0	11.75	5
I had reading and other learning material at home which I used to learn and study on my own when school was closed	*f*	62	200	0	117	21
	%	15.5	50	0	29.25	5.25
I was able to follow lessons on TV and radio during the closure of schools	*f*	270	56	0	69	5
	%	67.5	14	0	17.25	1.25
When we reopened teachers gave us extra work to do at home so as to catch up	*f*	152	178	0	62	8
	%	38	44.5	0	15.5	2
When we reopened we had enough time for learning since the school created more time for us	*f*	335	47	6	10	2
	%	83.75	11.75	1.5	2.5	0.5

These findings actually confirm what was revealed in a study in Kitwe by Mukaku et al (2021) that it was difficulty for the learning of mathematics to have continued through remote learning during the closures of schools due to COVID-19 because learners and schools did not have good means to do so. What seems to be the reality during the COVID-19 school disruptions is that while educational systems from some technologically advanced countries might be managing to continue with teaching and learning through an online mode of educational provision, some low-income countries may find remote learning a lot more challenging (Ahedor, 2020; Oyediran et al., 2020; Camacho-Zuñiga et al., 2021). This could be attributed to limited resources by most schools, as the data in this study had shown, and a lack of experience by the vast majority of teachers with online teaching modes. It was for this reason that in this study, we also investigated whether teachers had appropriate pedagogical competencies for blended and distance learning. The section that follow provides the findings for this.

Teachers' Pedagogical Competencies for Blended and Distance Learning

Although teaching and learning are as old as humanity itself, when it comes to formal education, pedagogical competencies are mostly acquired through systematically organized teacher education programmes. As earlier mentioned, most teachers in Zambia are prepared for the face-to-face teaching methods. However, blended and distance education delivery require more than just face-to-face pedagogical competencies. It is for this reason that teachers were asked to provide information on how ready they were to teach using blended and distance approaches.

Table 2:Frequency and percentage distribution of teachers views on teaching using blended and distance approaches(n=200)

Teachers' Views about Blended and Distance Teaching		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I need extra skills for teaching blended and distance learning	*f*	0	5	15	52	128
	%	0	2.5	7.5	26	64
I am relatively able to teach using blended and distance teaching methods and approaches	*f*	141	37	5	15	2
	%	70.5	18.5	2.50	7.5	1
I would be willing to learn new competencies for teaching blended and distance teaching approaches	*f*	0	8	6	23	163
	%	0	4	3	11.5	81.5
I know of teachers in Zambia who can effectively teach pupils using blended and distance methods	*f*	162	20	7	11	0
	%	81	10	3.5	5.5	0

An open ended question was also asked in the teacher's questionnaire for them to give an overall view on what they thought regarding their capability to teach using blended and distance teaching methods. They seemed to have been two positions taken by teachers. Others were not enthusiastic about it while some would go for it if given a chance.

Two of the interesting and significant responses were as follows. One teacher mentioned that;

> *I do not think I will spend time learning those methods because I have been teaching for so many years now and I am remaining with only two years before I retire. I cannot start learning such methods now because from my experience of working in the ministry by the time I start using them, I would have already retired.*

Yet another one representing the other group of teachers mentioned that;

> *I would gladly learn these methods since we seem not to know when COVID-19 would go away. Moreover, I will not lose anything by learning other ways of teaching learners which could suit the current situation. But the ministry would need to invest a lot in this and come up with clear and well organized CPD programmes.*

From these verbatim and the responses from the teacher's questionnaire, it is very clear that teachers in both primary and secondary schools in Lusaka did not have the required competencies to teach learners using the blended and distance methods. What is good however, is that they would be willing to learn these methods if they were given a chance. Head teachers were also asked to explain if they thought teachers were in the position to effectively teach using blended and distance methods. A head teacher from one primary school noted that;

> *I would be happy to find a teacher in our schools who would claim that they can teach using blended and distance approaches. Most of us were prepared and have for years only been teaching face-to-face teaching methods. I now wonder how this one can work among our teachers.*

A head teacher from a secondary school also mentioned that;

> *I do not think our teachers have the competencies to teach in the blended and distance modes of education. But let's assume they had the competencies, the biggest challenge is that our education system has no capacity to go this route. A lot of things need to be put in place including attitude change.*

Another interesting response was given by a head teacher from a secondary school who said that;

> *I have had my teacher education at college and university but was prepared to teach using the face-to-face mode. I thus presume that most of the teachers in the Zambian schools were prepared that way. So I am even surprised that you are asking me this question because I wonder where teachers would acquire the skills from just because COVID-19 is here and we can no longer meet learners face-to-face.*

A head teacher from another primary school further added that;

> *The COVID-19 situation is a challenge to our usual way of doing things in teaching and learning. Just as we cannot move around without covering our nose and mouth, so do we need to rethink the teaching approaches because we do not know for how long this scenario will be with us. No wonder it is called the new normal. As teachers, we do not have the required competencies for blended and distance teaching but we need to have them now.*

Another head teacher also confirmed that teachers had no competencies for blended and distance teaching and wondered how soon such skills could be acquired. She said that;

> *Teachers do not have any such competencies to teach learners on a blended and distance mode. Teachers would need a robust in-servicing programme to acquire the skills for teaching using blended and distance approaches. But knowing how in-servicing has been done in the past, it would take a lot of time to have every teacher reached. I am not being pessimistic but realistic.*

Just as teacher education researchers such as Mulenga (2018), Banja and Mulenga (2019) have rightly observed that teachers' relevance in ensuring effective curriculum implementation is unquestionable. However the picture being painted by the analysed data here is that primary and secondary school teachers in Lusaka do not have the required competences to teach using blended and distance methods since they were not prepared to do so and have not being using such methods. Thus, the advent of COVID-19 pandemic cannot all of a sudden change them unless some form of urgent and robust in-servicing is done. While we focus on the teaching methods for blended and distance learning that teachers need, it is also important to keep in mind that teachers will also need the knowledge and skills to design and develop teaching resources and lessons for remote learning something that they had not being exposed to also since they actually mentioned that they were more familiar with face-to-face teaching and learning. Although the theory of connectivism seems to be suggesting that the role of the teacher in remote learning is less needed, research over the years as indicated by Smith and Riley (2012) and Poirier et al (2019) and indeed this study still point to the fact that the teacher is still a center piece in the process of learning because learning activities will still need to be prepared and designed by the teacher in order for blended and distance learning to take place.

Digital Literacy, availability of Digital Devices and e-learning Platforms

Blended learning requires to combine the traditional face-to-face class room practices with on-line and distance

learning. During the COVID-19 disruptions, it was thus important that both teachers and learners had access to digital devices, e-learning platforms and had the knowledge and skills to use them. It was for this reason that learners, teachers and head teachers were asked to provide information about these aspects. Figures 2 and 3 are a summary analysis of learners' and teachers' views.

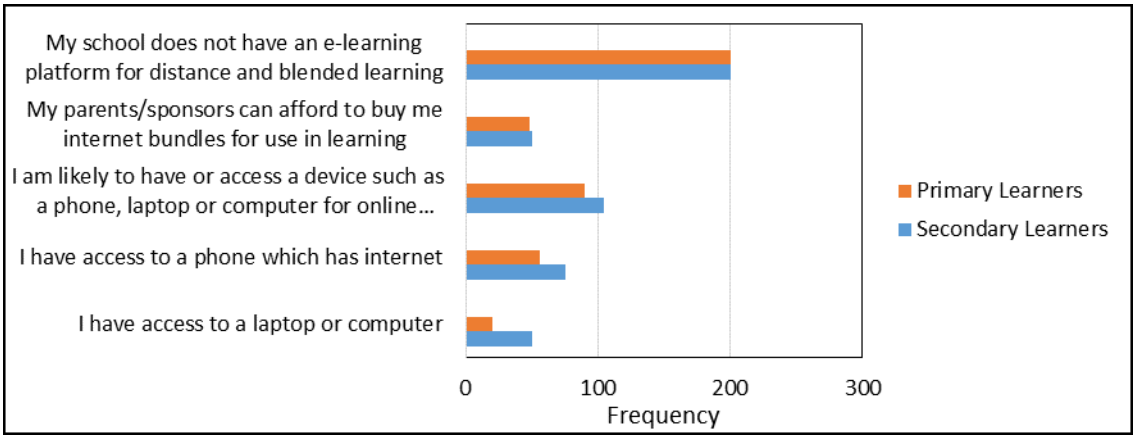

Figure 2: Frequency distribution of learners' views on the availability of digital devices and e-learning platform for use in learning (n = 400)

Figure 2 clearly shows that most learners did not have access to digital devices which they could have used for blended or distance learning. Although the situation is not good for both primary and secondary schools, findings in figure 2 show that primary schools are most hit. Importantly, no school had an e-learning platform.

Additionally, in figure 3 out of 200 teachers only 50 (25%) indicated that they had ICT skills to use for teaching. This is a very worrisome situation in terms of using digital devices to facilitate online learning. Moreover, most teachers also indicated that they did not have devices such as laptops, computers or tablets that they could use and most of them indicated that neither of them had access to internet. The situation as depicted by both learners and teachers actually show that both primary

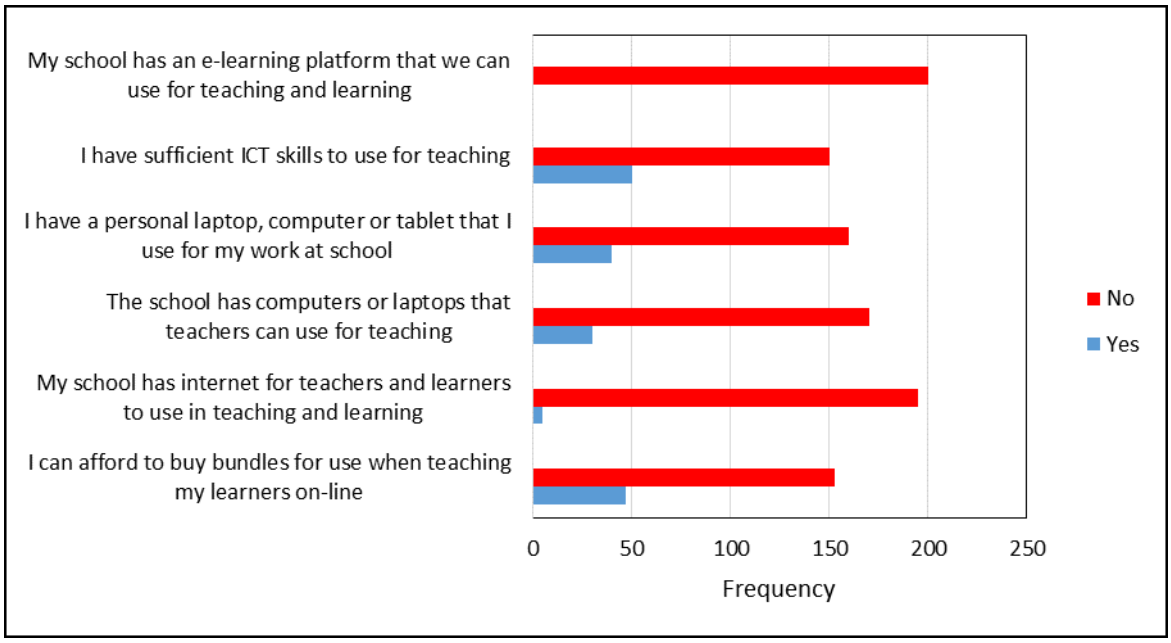

Figure 3: Frequency distribution of teacher's experiences about the availability of devices, Internet and e-learning platforms for use in teaching during the COVID-19 disruptions (n = 200)

Figure 3 is a confirmation of what learners had expressed as shown in figure 2. Findings in figure 3 show that the lack of an e-learning platform in schools as expressed by teachers is in agreement with what learners indicated.

and secondary schools in Lusaka had no capacity to use blended and distance education approaches given the deprived digital environment in which the schools existed. Head teachers as school administrators were also asked to provide information regarding the same issue of the availability of digital devices and ICT competencies among teachers.

One primary school head teacher briefly explained that;

> *My school does not have the necessary digital devices such as laptops, computers or tablets to use to facilitate blended and distance learning*.

Regarding the availability of internet all the head teachers explained that these would be difficult to afford by both the school and the community. For instance one head teacher from a secondary school mentioned that;

> *The majority of our learners and teachers cannot afford bundles to use for on-line learning, not even schools can afford that.*

Commenting on the teachers' ability to teach using online methods it was noted by most of the head teachers that not all teachers had such skills. For example a primary school head teacher mentioned that;

> *Some teachers have basic skills on how to operate computers but I doubt if they may have the skills and knowledge to facilitate learning in terms of on-line teaching.*

It was also confirmed that schools did not have e-learning platforms as a head teacher from one secondary school observed that;

> *I have not heard of any school having an e-learning platform. Ever since learners closed schools all I see are TV lessons run by the Ministry of Education. But I do not know how many of our learners actually follow those lessons.*

Ozdemir and Bonk (2017) had pointed out that searching and locating specifically high-quality digital educational resources, among the many that are published and available, is a difficult task for teachers. Findings in this study however are suggesting that in the case of schools in Lusaka district, even basic resources such as e-learning platforms, access to smart phones, laptops and computers are a challenge to find. Availability of internet is yet another impediment to digital learning which can facilitate blended and distance learning. While effectively selecting and using of learning tools is beneficial to learners in finding and processing information, constructing knowledge, collaborating with peers, expressing understanding and evaluating learning effects in concrete ways is important in blended and distance learning, for learners and teachers in this study, the challenge goes beyond selecting and use of such tools. Findings clearly show that teachers lack sufficient competencies for teaching in these approaches and schools do not have the necessary devices for use to facilitate teaching and learning. It is a double crisis where both teachers and learners will have to deal with the health issues related to the COVID-19 pandemic and also were faced with lack of educational provision to teach and learn during the pandemic. Access to resources for learning is often related to underlying social issues which, although beyond the control of schools, need consideration when delivering remote learning. When it comes to the availability of devices for remote learning, there are inequalities in both developed and non-developed countries. For example, in Australian schools, Krishnan (2020) and Thomas et al. (2019) reported that there was a substantial digital divide between richer and poorer Australians, regardless of location. But what seems to be the situation in the case of Lusaka schools is that most learners and teachers have no access to devices and lack competencies to learn and teach remotely, a point that was also revealed in a study that was done by Masumba and Mulenga (2019) about the teaching of computer studies in Zambian schools.

Moving Forward amid Uncertainties

Like many educational systems in the world, uncertainty abounds the future of the academic years since the advent of the COVID-19 pandemic which seems to take different turns with the subsequent waves that still affect several parts of the globe. However, one can draw some reasonable conclusions based on what is been done in schools in order to navigate the challenges of the pandemic. Although we may have the explosion in the use of online and virtual learning environments, and the associated shift in attitudes and behaviors in other parts of the world, the Zambian situation seems to be lagging behind based on the findings in this study. It is for this reason that researchers in this study wanted to find out what was in the plan of schools in moving forward amid these uncertainties. One very obvious aspect that the COVID-19 pandemic had brought about is the time loss in learning.

Schools initiatives to address learning loss

Teachers were asked to indicate the initiatives that their schools had taken as a way of dealing with the loss in the time for learning that had been brought about by the COVID-19 disruptions.

Figure 4 is a summary of the analysed findings of teachers' responses.

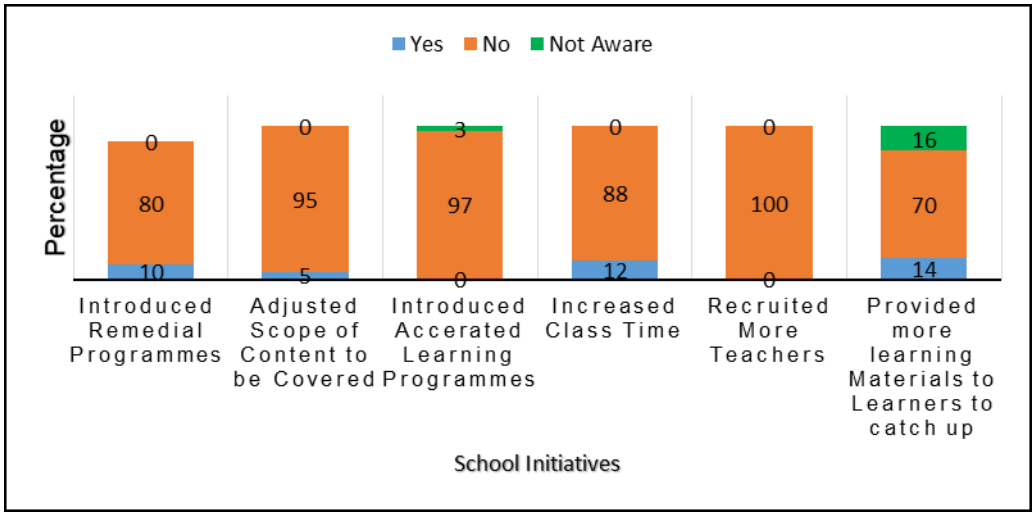

Figure 4: Teachers responses on the initiatives taken by their schools about learning loss

From figure 4, it is very clear that most of the initiatives such as introducing remedial programmes, increase learning time in class, adjusting the scope of content to be covered and others have not been taken since most teachers responded in the denial of the existence of such initiatives. The findings in figure 4 further show and point to some of the inadequacies that schools had been experiencing such as a high teacher pupil ratio, inadequate classroom space and lack of learning materials as other studies have indicated in relation to the challenges of the Zambian education system (Mulenga & Lubasi 2019; Zulu & Mulenga 2019; Moobola and Mulenga 2020). However, a deeper meaning to these findings is that there seem to be no clear initiatives that schools in Lusaka put in place in order to minimize the effects of the COVID-19 pandemic on teaching and learning despite the fact that blended and distance learning are not employed during disruptions so as to gain on time lost. In order to have more insights into how schools related with the entire Ministry of Education in relation to the COVID-19 pandemic, head teachers were asked if schools had a say on some decisions that were taken regarding teaching and learning in schools during the COVID-19 disruptions. The finding of this aspect are presented in the next section.

Locus of Decision Making

In times of emergency education most experiences are felt in the schools where teaching and learning actually take place. It is for this reason that it is critically important to use a bottom-up strategy in decision making regarding schools in times of crisis such as the COVID-19 pandemic ones. Head teachers and teachers were thus asked if they provided information to educational authorities or if they were consulted by educational authorities before decisions were taken in relation to how schools were to operate during the COVID-19 pandemic crisis. A head teacher from one primary school explained that;

> *This is one of the challenges we have as school leaders in the sense that most times we are made to implement policies that are not a reflection of the schools. For instance, during this period, we were asked to ensure that we divide learners in small groups and create more streams which is a good idea but that is not practical given that these streams are also supposed to come to school every day. We do not just have the space. How I wish we were consulted. But may be other schools have the space.*

A teacher from a secondary school also explained that;

> *You know in our ministry, all decisions come from the top regardless of their nature. But in this situation we expect wider consultations from schools because this situation is not only about education but it is also bordering on our health. For instance we delayed to close when the pandemic was eating into the schools to the extent that some teachers got sick. But since our voices are rarely heard we just went on like that.*

A head teacher from one primary school also noted that;

> *You were asking me about distance learning. How I wish the Ministry of Education consulted us on who should teach on the education TV but they do not. All we see are teachers appearing on TV and one wonders how they are selected. Moreover, most learners do not watch those programmes. Apart from electricity load shedding, some do not even have the provisions of channels where the programmes are shown. But the ministry assumes that every learner has access to TV.*

These views were also cemented by another head teacher from a primary school who noted that;

> *Most of the times all we receive are circulars and sometimes you even just get information from colleagues that such and such a decision has been taken without even knowing how it was arrived at. We just wonder on what facts some of the decisions are based since they do not reflect what we experience in schools. For instance we were told that we needed to provide washing points for pupils in schools but we do not have the money to buy the facilities needed for that. Schools do not have money to provide such things and other*

requirements that have come with the COVID-19 pandemic.

A teacher from a primary school also noted that;

I have seen Ministry of Health coming to our school during this period but they do not ask us for our views and opinions all they do is give directives to the head teacher who later communicates to us.

In times of educational crisis such as the COVID-19 pandemic one, it is beneficial to use consultative administrative strategies in arriving at decisions which greatly affect beneficiaries such as learners, teachers and other educational stakeholders. However, what teachers and head teachers seem to experience in Lusaka is that they did not take part in the decisions that were arrived at. This is likely to affect the effective implementation of such directives since the implementers do not seem to own them.

4. Conclusions and Recommendations

The COVID-19 pandemic has with no doubt changed the lives of large numbers of learners, teachers and parents around the world. While this is first and foremost a health crisis, the impact of the COVID-19 pandemic will have significant long-term effects on education, especially when it comes to curriculum implementation among learners as acknowledged by Teo and Griffiths (2020) and Al-Amin et al. (2021). But we also can rightly argue that the impact may even be more on developing countries like Zambia where findings from the schools in Lusaka district, which is the capital city of the country, reveal that blended and distance education cannot be effectively done. Based on the evidence in this paper, it can be concluded therefore, that in the case of Lusaka schools in Zambia, learning during school closures and even when schools reopened was negatively affected. Secondly, the COVID-19 pandemic clearly exposed a lack of blended and distance teaching competencies among teachers and a sense of helplessness among head teachers since all they could do was wait for schools to reopen before teaching and learning could resume. This situation was made worse with a lack of necessary, digital equipment, devices, facilities and infrastructure to deliver quality distance, online and blended education.

While acknowledging and indeed findings showing that students and teachers with access to ICT gadgets and internet services may not be the majority in Lusaka schools, we argue and recommend that the COVID-19 pandemic induced school closure in Zambia, and elsewhere, could be a wake-up call for education systems to fund and put up infrastructure that supports blended and online learning models. The provision of ICT products and services is bound to make teaching and learning easier, both remotely and during physical classroom interactions. This is not an assumption but an empirically proved reality which has been authenticated and researched on by scholars in countries where blended learning and distance learning has been used to the benefit of learners as noted by Zhang (2020) and Jere et al. (2021). Additionally, the situation of learning deprivation in Lusaka schools during the COVID-19 disruption could however, become an opportunity to rethink teacher education processes and development especially continuing professional development for serving teachers who are already facing the challenges of teaching blended and distance learning of learners. Although this may be quite ambitious, for a developing country such as Zambia, it would be important for funding strategies to consider provision of devices to each learner on which they can access learning platforms with a view to developing and strengthening their learning skills and sustaining their motivation to learn without interruptions. Although the COVID-19 pandemic has exposed how fragile and unprepared Lusaka schools are, it has also pointed to possibilities of how technology can promote learning if the education system is properly funded as it is done in some countries around the world where success stories have been reported during this same period as noted by Carlana and La Ferrara (2021).

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