



# Teachers Experiences on Remote Learning During the Covid-19 Period: A Case in Kenya

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## Abstract

*The World Health Organization (WHO) declared Covid-19 a global pandemic in March 2020, and warned about its highly contagious nature. Throughout the first quarter of 2020 many governments closed their schools temporarily in response to COVID-19 spread where more than 1.5 billion enrolled students of all ages from all around the globe experienced interruption of education. This aimed at reducing the chances of humans infecting each other with Covid-19, especially in places humans interact closely including educational institutions. This paper explores the experiences of the teachers on remote learning during the covid-19 period in four counties in Kenya gathered through a survey conducted in February 2021, collecting data by administering both open and closed ended questionnaire. The objectives of this study were to establish: availability of digital infrastructure for remote learning; the digital teaching and learning resources used by teachers in remote learning and teachers digital pedagogical skills necessary for remote learning. Distance education and online collaborative learning theories are discussed. A total of 116 teachers in both primary and secondary schools in Kenya responded to a questionnaire consisting of both quantitative and qualitative questions, with qualitative data analysed thematically and quantitative data with descriptive statistics. The result indicates that the teachers faced technological and pedagogical challenges teaching through remote learning. This study is intended to provide an early contribution to the understanding of teachers experiences in remote learning during the pandemic, an historical documentation, a point of reference for similar studies in the future and, hopefully, a first step towards collective reflection on possible avenues of development for our educational system build on informed policy decision making.*

**Keywords:** COVID-19, Kenya, remote learning, primary school, secondary school. Digital pedagogical skills.

## Introduction

The World Health Organization declared the Corona virus (COVID-19) a global pandemic on 12 March 2020 and social distancing was adopted in many places to contain the problem (WHO, 2020). As of April 10, 2020, the COVID-19 pandemic brought learning to a screeching halt worldwide, creating the most severe global education disruption in history driving more than 85% of countries around the world to close schools entirely or partially leaving more than 1.6 billion students out-of-school (WorldBank, 2021). Ministries of education in different countries recommended or made it mandatory to implement online learning at all school levels in

various countries and Unesco declared its commitment to supporting governments in its implementation ( UNESCO, 2020).

Remote Learning occurs when the learner and the instructor, or source of information, are separated physically and hence cannot meet in a traditional classroom setting. In remote learning, lower-tech remote learning options ,for example., TV, radio and mail as well as printed and distributed learning material to students in disadvantaged areas are utilized (UNESCO, 2020 b).During the Covid-19 period emergency remote learning was implanted in many countries as WHO Director General Audrey Azoulay said ‘*We are entering uncharted territory and working with countries to find hi-tech, low-tech and no-tech solutions to assure the continuity of learning*’(ibid,2020).This remote learning was a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances and was not equivalent to the well designed online learning(Hodges et al.,(2020).Nevertheless, remote learning also includes online learning which is defined as learning experiences in synchronous or asynchronous environments using different devices for example, mobile phones and laptops with internet access. In these environments, students can be anywhere and are independent to learn and interact with instructors and other students (Singh and Thurman, 2019).

A report from the World Bank documented over 30 case studies of remote and online learning from around the world (World Bank,2020). In the UK, since the covid-19 outbreak, BBC Bitesize coverage has been expanded to support the home education of students by providing daily lessons for 3-18 year starting 20 April,2020(Van Lieshout, 2020). In Spain from mid-April, the ProFuturo’s digital learning platform opened its digital learning platform to teachers and students across the world so they could continue learning from home (Encinas-Martin (2020). In Nigeria, Edo-BEST@Home has leveraged its existing education model to provide remote learning solutions (Munoz-Najar (2020). Vietnam used Educational Television for remote learning where broadcast school lessons were transmitted on one national and 27 provincial TV channels all over the country (Hoang, H.P., Le, A.V., and Reimers, 2020). In Indonesia, the Ministry of Education and Culture implemented the School from Home (SFH), an online learning system(Aliyyah et al.,(2020).

In Kenya, a presidential address on 15<sup>th</sup> March,2020 on Covid-19 suspended learning in all education institutions with immediate effect(H.E Uhuru Kenyatta ,2020).Consequently, the Government enhanced curriculum delivery through the digital platforms to reach out to15 million primary and secondary learners at home(Republic of Kenya,2020 ).Under the programme named ”out of classroom learning” four digital different platforms were used; that is the Radio, EDU TV, YouTube and the Kenya Education Cloud. In partnership with the Kenya Broadcasting Corporation (KBC), the Ministry broadcast radio programmes daily, from Monday to Friday on English Service from 9.15 a.m to 12 o’clock, and from 2,00pm to 4,00pm. The programmes were also aired through Radio Taifa from 10a.m to 11a.m and also on Ifini FM and Transworld in Garissa, Mandera and Wajir Counties. Television Lessons were transmitted on the KICD owned Edu-Channel, which is a Free to air. The programmes were also accessed through Edu TV YouTube and the Kenya Education Cloud which hosts digital content of all KICD approved materials. The digital content is available online through [www.kec.ac.ke](http://www.kec.ac.ke).

Although technology has the potential to help address the global learning crisis this potential has not yet being realized due to various reasons such as; there are many under researched issues and intervention designs are

often not evidence-based (World Bank, 2021). Currently, the scientific literature and empirical research evidence about teachers experiences on remote learning are still limited, and there exist a rather scattered picture of the situation. Nonetheless this is probably going to be a popular theme of investigation for scholars for several years to come.

The specific objectives of the study were to: establish the availability of digital infrastructure for remote learning, find out the digital teaching and learning resources used by teachers in remote learning and establish whether the teachers have the necessary digital pedagogical skills necessary for remote learning

## **Methodology**

A survey was conducted among primary and secondary school teachers on their experiences of using remote learning during the Covid -19 school closure and a questionnaire which contained open ended questions was administered to obtain in-depth information from the teachers. Quantitative data were analysed descriptively and integrated with the narrative qualitative findings.

## **Findings**

The analyses on teachers experiences on remote learning during the Covid 19 period was arranged according to the objectives of the study. Both quantitative and qualitative method were used in the analyses where the teachers experiences, voices, and opinions were analyzed in a narrative form. Narrative responses from Primary schools teacher were labeled P1,2,3...while those from the secondary school teachers were labeled S1,2,3..... for purposes of differentiation.

## **Participants**

A total of 25 schools participated in the study, comprising 14 primary and 11 secondary schools. A total of 116 teachers participated comprising 66 in primary school and 50 secondary school teachers.

## **Availability of digital infrastructure for remote learning**

One main factor that ensures implementation of remote learning is provision of reliable communication infrastructure. Reliable network infrastructure is crucial to support different activities, such as synchronous teaching using video conferencing and Zoom, asynchronous learning by accessing or downloading digital learning resources, and collaboration with peers via social software, etc(Huang et al.,2020).

In this study all the teachers 116 (100%) in both primary and secondary schools indicated that they did not have reliable network infrastructure and used their smart phones bundles to get in touch with the learners.

Majority of the teachers in both primary and secondary schools did not teach through remote learning. In the primary school, only 27.3 % of the teachers got in touch with their learners through their parents mobile phones. However, in primary schools,72.7 % did not contact their learners at all. In some cases it was not possible since some parents don't have smart phones. The 27.3% of the Primary school teachers who taught through remote learning used a Smartphone to connect online and carry out their teaching activities. They

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used their Smartphone as well as internet access point too as none of the teachers had broadband access to the internet.

When asked why they did not get in touch with the learners, some teachers raised issues arising from students' diverse socioeconomic background:

*I didn't bother to check on my learners because most of my learners are from humble background. Internet is a problem. Some live in informal settlements and there is no electricity in some parts. During that time I did not do much in remote learning because there is no infrastructure, the closure was sudden. We could not contact the parents to open whats up groups [Teacher P1]*

Even those learners who use alternative sources of energy had a challenge:

*Where my pupils come from, there is no electricity and pupils rely on solar power which is not reliable. They use solar whether there is sun or not [Teacher P2]*

Remote learning pedagogies also should be inclusive and take care of learners living with disabilities. The experience of teachers in a school for the deaf that participated in the study expressed it as follows:

*My students cannot hear. I therefore did nothing...I didn't have their contacts. Most of the deaf students are a bother to their parents because they cannot communicate, only very few are able to communicate...online learning did not benefit learners who are deaf. Radio never benefited at all. Parents with hearing impaired children should understand how to communicate with their children. It is the language of their children. We can organize and teach the parents sign language at school [Teacher P3].*

In some cases the teacher felt the learners in lower school were too young to be taught online:

*I did not attempt to teach online classes because my pupils are in Grade3. Where they live there is no Internet. Some homes don't even have radios or Television. I only got into contact with them after they opened school. Didn't have contacts and remote learning requires bandwidth [Teacher P4].*

Other teachers felt the closure was hurriedly done and there was no time to plan for remote learning:

*There was no time to prepare. The closing was done in a hurry. We didn't know how long we would stay at home. If this information was given earlier we would have prepared [Teacher P5].*

*I didn't bother. Most of the learners are from humble backgrounds. Internet is a problem. Some live in informal settlements and there is no electricity in some parts. The closure was sudden. We could not have contacted the parents to open whatsapp group. There was anxiety about closure and when they reopen and what to expect after opening [Teacher P 6].*

The issue of lack of reliable power was not only from the learner's side. Some teachers had this as a challenge from their end:

*My power would go off, apologize to the parents. Pupils used parents phones and when they go to work no learning takes place. When I leave an assignment the learners cannot understand because they did not attend class [Teacher P7]*

The issue of infrastructure was also cited as a challenge in the secondary schools:

*Challenges that I have faced in rolling out E-learning/virtual learning in our school entails: a) Poor network coverage in some parts of the zone b) Some learners not able to afford Smart phones/laptops c) Some learners not able to afford internet bundles [Teacher S1].*

Another secondary school teacher also had a challenge of lack of proper planning:

*A group started teaching online but was not sustainable. Not all students were in the groups so they did not go on [Teacher S 2]*

### **Digital collaboration platforms**

On the type of digital learning platforms and tools used by the primary school teachers, (6)9.1% used Zoom, (8)12.1% used whatsapp, (4) 6.1% used the SMS Message platform. None of the teachers in primary school used the Microsoft and google classroom (table3). Majority of the teachers used the parents or guardians mobile phones to get in touch with the learners

In one of the private primary school a Zoom platform was provided and paid for. Teachers would prepare their own notes and teach.

The Zoom platform was also used to engage the learners on non-formal curriculum content:

*There was no remote learning taking place on subjects taught in the curriculum. However For 3 days from 8 a.m-4p.m we held Education for Sustainable Development (ESD)meeting on Zoom. I was told to compose a committee of the headteacher,2 pupils,1 focal teacher,1 Parent representative for 3 days. The content was on Education for Sustainable Development (ESD) The link was given by Quality and Assurance Officer in the county [Teacher P8].*

12.1% of the teachers in primary school got in touch with the learners through their parents whatsapp:

*In our school we sent past papers through whatsapp to parents. We have a parents whatsapp group where we contacted them and told them to ensure the children did the exam. Though we did not manage to mark all of them [Teacher P9].*

In Secondary school, some of the digital platforms used by teachers were as follows:8(16%) used Zoom,24(48%)whatsapp and 4(8%) SMS. However they also used other platforms with other enhanced features for communication such as Microsoft teams 4(8%), Google classroom 4(8%) and 1(2%) used BigBlue Button. They had varied experiences as follows:

*There was a challenge because not all learners have smart phones. Some have button phones. Also communication was a challenge between me and the students. Sometimes you send and very few access the materials. In fact some are not able to access at all (Teacher S3)*

*We used goggle classroom. At the beginning the participation was good, though not 100%.It then went down to 50%.We used the parents emails. However there was the problem of parental supervision..some gave*

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*bundles but children went to other sites. This affected those who comes from the affluent families. Decision on opening of schools affected their participation..Uncertainty and postponement of exams(TeacherS4).*

*Sent assignment through what sup group of parents but feedback was about 50 %. The challenge was that some parents did not have smart phones(Teacher S5).*

*I did not teach my students since I didn't have their contacts. This thing just came and most times confused and a lot of anxiety. I didn't know it would stay for long otherwise I would have taken their contact. What I did I started teaching my kids and I assisted other students from my village(Teacher S6)*

*I attempted to use what sup but gave up after prolonged period of closure. Phones are shared by learners and parents and this was a challenge (TeacherS7).*

In one of the schools, an ICT Champion secondary school teacher initiated the use goggle classroom, whatsapp, Zoom and BigBlueButton. BigBlueButton is an open source web conferencing system which supports real-time sharing of audio, video, slides with whiteboard controls:

*I coordinatde their implementation of the following in our school: 1) Google classroom (both synchronous and asynchronous)- served us well during the corona pandemic and still active over the weekends for collaborative learning. When I created goggle classrooms uploaded content and assignments. Teachers tried to join but at time experienced connectivity challenges. It was not very active 2) Google meets- served us well during the corona pandemic and still active over the weekends 3) Whatsapp groups - served us well during the corona pandemic and still active over the weekends for collaborative learning. However, *even the created a what sup group created was not successful and I gave up* 4) LMS/JBS software- for executing the academic functions of the school. 5) Bulk SMS system for continuous communication with parents and students- served us well during the corona pandemic and still active over the weekends 6) Zoom- served us well during the corona pandemic and still active over the weekends. *However, after creating a link for Zoom for 40 minutes at first it was received positively and materials were sent through it. Appealed to parents to buy bundles but a few were ignorant.* 7) Bigbluebutton- am currently overseeing its workability in our context as a school [Teacher S8].*

To open Google classroom application requires a user to log in and sign using a Google account email account. In some cases parents did not have personal gmail emails and relatives gmail accounts was used in remote learning:

*Google classrooms was created using emails from parents and with parental consent. We use relatives emails for those students who have illiterate parents [Teacher S9]*

### **Self-directed digital teaching and learning resources used by teachers in remote learning**

Digital learning resources include; graphics images or photos, audio and video, simulations, animations, e-notes and electronic textbooks. Digital learning resources also include open educational resources (OERs), in particular, resources that are “born digital” and are freely available for students to access anywhere and from any device (Educause Horizon Report,2021). The Horizon Report mentions Open Education resources as one of the technologies and practices that will drive teaching and learning forward in 2021 and beyond..

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Teachers were asked to indicate the self directed digital learning resources they used during closure of schools due to covid-19. Among the primary school teachers 2(3.1%) used Kenya Institute of curriculum development (KICD) audio and TV materials,4(6.7%) and Akili Kids programmes.18(27%) of the teachers created user self generated content which were their teaching notes.They responded as follows:

*Some learners have smart phones and used free bundles provided by safaricom to access KICD content. In some homes electricity is not available and majority use solar. Some charge their phones at the shopping centre. They also used printed revision questions which the parents picked and delivered in school and teacher would assess and send back. The parents need to be enlightened on importance of remote learning not to engage children in home chores that disrupt learning. Government need to provide electronic devices to parents for remote learning. They also need affordable gadgets [Teacher P 10]*

*We used printed revision Questions which the parents delivered to school and teachers would assess and send back [Teacher P 11].*

Majority of the secondary school teachers 24(48%) used self created content to teach their students. They used their own teaching notes, revision questions and gave assignments, quizzes and discussion questions from past mock examinations and photographs from textbooks:

*I used what sup and preferred to use my own teaching notes. Content from other sources is not fully aligned to the curriculum, it is developed by individual teachers and it's not evaluated [Teachers S 10]*

*When I got the materials the education officer would send to the ICT department and disseminate them to the teachers. It was to some extent successful because the parents were calling and asking about the content and I would send. During that time let me say I realized is that the candidates who looked serious because they knew after Covid there would be exams [TeacherS11].*

*We had contacts and could send a paper. However the parents were complaining it was very expensive and could not afford. It was a challenge. Some after sending you don't receive feedback. You send a paper, after sometime marking scheme to know how they were fairing [Teacher S 12].*

### **Digital pedagogical skills necessary for remote learning**

Effective remote relies more on the pedagogical digital capacity of the teachers. In this study over 70% of the teachers in both primary and secondary schools, felt overwhelmed and unprepared to use remote teaching strategies and tools and they struggled to adapt their pedagogy to fluctuating situations, such as students' unreliable Internet access, changing personal needs, and unclear or shifting educational or governmental directives. Participants reported needing significant support with shifting their practice and, as a result, mainly relied on informal, self-directed learning and sometimes with their professional learning networks for assistance.

*Teachers are not trained on online teaching so it was not easy [TeacherP12]*

On the other hand student motivation is a key element and forms part of the supportive pedagogies for remote learning. The teachers linked lack of student motivation to contextual issues which included: family obligations, e.g., looking after siblings or helping out at home or on the farm; distractions like entertainment media as follows:

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*Most of the children at home are not motivated to learn. Motivation is very low. Only benefit when they are at school. When they opened one learner could not spell a simple word like 'cow'. They had forgotten most were working on the farm. But after schools opened they have improved. Even normal holiday takes time to bring them to the system. kept busy by parents doing manual work like farming. Had no time to watch programmes [Teacher P 13].*

*There is lack of interest on the side of the learners. We used to send assessment which they will not do. It was hard to follow whether students did the assignment. Only those who were willing to do. Those unwilling you are not able to get them like when they are in school. In school you are able to follow even if they are lazy it's easy to follow them up. There was also competition with entertainment media. There are a lot of distracters and possibility of getting content in a more entertaining manner. [Teacher S13].*

One of the teachers indicated the challenge of Multi grade teaching approach and teaching practical subjects in remote learning as follows:

*Got in touch with the learners for a few days, formed a cluster of learners. We were to teach them and revise and not successful. The children were from different classes and then the fear of corona. Teaching different classes became a challenge [Teacher P14].*

Another challenge of remote learning was applying pedagogical strategies appropriate in the teaching of subjects such as Science subjects and Physical Education:

*It was very difficult to teach practical subjects like Biology and Chemistry, reading logarithms table in 4 figures. It requires step by step and therefore learning is not effective through whatsapp. It is also very difficult to track learners progress and monitor..Some would copy from textbooks or from each other [Teacher S 12]. The parent does not want the child to use the phone...like in my case I am told to teach P.E ...where am I supposed to take my children to show how to dive...should it be theory. Only applicable to those who have the facilities [Teacher P15].*

Another issue was teachers classroom control and management of learners during remote learning as stated:  
*We tried to use the Google classroom after creating emails from parents. However there was indiscipline. Some students started sharing phonographic materials, others side chatting and doing their own things. There were also imposters advertising their own stuff. We disabled the chat and only left the tool where students would raise their hands. We asked students to indicate their admission number, take a screen shot and if not logging as the requirement we would remove them. Some students were blacklisted and could not join any class. It was not very easy [Teacher S 13].*

*Some parents were not comfortable with online and it should be done by the teachers who teach the children. They argue that children will have issues with discipline, access sites which are inappropriate. Some argue these issues of pregnancy and indiscipline and don't believe in change [Teacher S 14].*

Teachers also indicated that assessment of the learners was a challenge in remote learning. It was expressed as follows:

*I wasn't able to track learners. Quite a good number of learners to give submit their assignment for marking because most of the parents, caregivers are not ready to give out their phones...since even some have not gone to school [Teacher P16].*



## **Limitations and Suggestions for Future Research**

This study used a survey and interviews to explore experiences of classroom teachers in primary and secondary schools about remote learning during the COVID-19 Pandemic in 2020. As does all research, this study has limitations. This research was a small representation of classroom school class teachers. For this reason, future research to be more comprehensive and larger sample. Future research could address the experiences of various stakeholders of remote learning during the schools closure. The research could be expanded to other counties in Kenya.

## **Conclusion**

Remote learning during the COVID-19 has impacted the educational systems. In response to this crisis, Kenya introduced remote learning on four digital platforms; Radio, TV YouTube and Kenya Education cloud. However, the teachers expressed varied experiences during the application of remote learning in Kenya as well as globally according to the literature available. For example, unreliable digital infrastructure, lack of digital devices, appropriate resources and digital skills among teachers. Learners also lack crucial learning competencies, such as adaptation, independent study, self regulation and motivation, which are key factors for successful remote learning.

## **Recommendations**

Based on the findings from this study the following interventions are recommended:

1. Provision of reliable network infrastructure, which can handle millions of users simultaneously.
2. Provide free User friendly learning platforms and communication tools for learning and teaching
3. Provide free, easy to use and suitable interactive digital learning resources on the available platforms and tools
4. Capacity build teachers skills to promote effective methods to organize instruction by adopting a range of teaching strategies.
5. Promote safeguarding strategies for learners as remote learning creates new health and safety risks for children.

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