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Challenges and Prospects of Covid-19 Pandemic for Education in Africa

Carolyne S. M. Buya
Lecturer, Department of Philosophy and Religious Studies, Pwani University, Kenya
Elizabeth J. Katam
Lecturer, Department of Education Management and Curriculum Innovation,
Kenyatta University, Kenya

Abstract:
This paper explores the consequences posed, in education, by the adoption of Covid-19 containment measures such as digitization of educational instruction to enable social distancing. It outlines the underlying assumptions in the implementation of online learning, and suggests possible remedies in form of recommendations for future actions. The papers observes that Covid-19 pandemic and its containment measures has affected every aspect of life by providing us a whole new experience in socializing with each other and how we generally conduct our affaires in society. The effect of the pandemic has greatly affected the socio-economic sphere, and the education sector has been worse hit. To counter rapid spread of the virus in educational institutions, closure became the immediate response with most countries adopting online teaching and learning as a means for mitigating the challenges that can be posed to learning when learners are detached from the face-to-face process for long period. The adoption of remote learning for most institutions was largely informed by the decisions reached by individual country experts in pursuant of health guideline of social distancing by the World Health Organization. However, the unforeseen consequences of the containment measures may linger on for many years to come. Thus, this Paper raises our consciousness to the resultant situation in education and proposes remedies for action. The paper is largely based on recent library research, but also utilizes actual instances to contextualize the issues raised, with the aim of drawing practical implications for both education research and policy.

Keywords: Covid-19, strategies, disadvantaged learners, online teaching and learning

1. Introduction

Disruption of education is not a unique phenomenon. Worldwide disruptions of continuous provision of education have been witnessed in varying magnitude in individual countries or regions when natural disasters occur. Some of the natural disasters that have affected the education sector include armed conflicts, floods, earthquakes and pandemics. The present Covid- 19 pandemic has hit the whole world with UNESCO estimates indicating that 87 percent globally were affected by closure of schools by the end of March 2020, and many countries where the pandemic was spreading continued to close schools (Winthrop, 2020). The unprecedented closures of education institutions come with significant and enduring adverse impacts on health, education, economic and social inequities. During these periods many school age children are deeply affected mentally, socially, psychologically and emotionally, with countries responding differently. One of the mechanisms adopted by most countries to counter the psychological effect of disrupted face to face education practice in most countries is the adoption of emergency remote teaching and learning. Whereas this move was deemed appropriate and able to serve education continuity, there are challenges that arise from both the means and the variation of socio-economic status of most countries in terms of infrastructure and general preparedness for continued education in critical situations such as during the Covid-19 Pandemic.

2. Materials and Method

The paper is as a result of desktop review of related research on the impact of COVID-pandemic on teaching and learning around the world and particularly in Africa. A descriptive and evaluative method has been utilized in making sense of the information and evidence gathered from experience and the literature search.

3. Results and Discussion

3.1. Risks Associated with School Closures Due to Covid-19

The closure of schools from mid-march 2020 to curb the spread of COVID 19 resulted to uncertainty and great concern from all education stakeholders. Worse still is that much of the global guidelines for education due to the covid-19 lacked research needed to boost planning for education continuity, yet education is the fourth pillar of the Sustainable

Development Goals (Anderson, 2020). UNESCO's 2020 Global Education Monitoring (GEM) report reveals that at least 40 per cent countries in low and lower-middle income across the world failed to support learners at risk during school shutdown due to the COVID-19 crisis, an indication that teaching and learning did not occur.

Disruptions of education as a means for containing Covid-19 have had severe consequences on social and economic spheres of society. Currently the world is in an unprecedented situation since over 90 % of students are not able to attend schools due to COVID 19 yet, countries were clearly not prepared and hurriedly started looking for immediate solutions (UNESCO, 2020). Kenya is one of the countries that adhered to WHO (World Health Organization) guidelines through the public health measures implemented to curb the spread of the Covid-19 for the general public. In Kenya, the Ministry of Health Covid-19 taskforce implemented initial prevention and mitigation measures to control the spread of corona virus that include: closure of schools and work places, suspension of large gatherings, maintaining social distance, implementing curfew and restricting entry and exit in most affected regions (Aluga, 2020; Thomas, Angrist, Kira, Petherick, Phillips and Webster, 2020).

The closure of schools and other social institutions was one of the recommendations of the joint mission on 30th December 2019 in China to curb the spread of the disease. Unfortunately, it has resulted to unequal students' learning, disruptions in internal assessments; and the cancellation of public assessments. In the UK, for instance, all exams for the main public qualifications were cancelled for the entire cohort (Burgess and Sievertsen, 2020). Specifically, UNESCO (2020) opines that the education disruption due to Covid-19 exacerbate already existing disparities within the education system. There is interrupted learning, confusion and stress experienced by teachers, unpreparedness of parents on the distance learning and home schooling, challenges in creating, maintaining and improving distance learning, increased exposure of learners to violence and exploitation, social isolation and challenges in measuring and validating learning. Closure of schools has subjected vulnerable students to an increased risk of negative social, emotional and behavioral outcomes (Drane, Vernon and O'Shea, 2020). In particular, the Covid-19 measures implemented may impede the benefits already attained on children right to quality education, as established under the Convention on the Rights of the Child in an appalling scale (Palmqvist, 2006). In Canada, despite online challenges faced other concern revealed includes mental health, abuse of substance, and domestic violence (Freeman, Silver, Baker, Rozenblyum and Suleiman, 2020). The unprecedented rate of school closures reveals those millions of girls and young woman, particularly in developing countries face other risks such as pregnancy and early marriages, especially in Africa. According to IIEP Director, *'evidence shows that both education and gender are neglected in responses to disease outbreaks. We need to pay more attention to the gender dimensions of the coronavirus school closures.'* The gender dimensions include domestic burdens, healthcare demands, domestic violence and sexual reproductive health (UNESCO, 2020, http://www.iiep.unesco.org/en/covid-19-school-closures-why-girls-are-more-risk-13406).

According to Edoho and Young (2020), closure of schools due to the Covid -19 pandemic has hit hardly all sectors. While in the education sector both parents and guardians are faced with the challenge of managing distance learning, disadvantaged children face compromised nutrition as many children, especially, in developing countries have been relying on free or discounted meals, childcare problems face both parents and guardians of all status, cases of school dropout may increase, loss of job increase the economic cost for parents and guardians in low socio- economic status.

Among the challenges associated with closures of schools due to Covid -19 pointed out in Nigeria include low attendance of students during the online classes since they can't afford the high cost of data to access online learning, particularly for the poor who are majority in the country and are mainly struggling to afford other essential basic needs (Adeoye, 2020). In Kenya, the government adoption of remote learning disadvantaged learners from poor,vulneranle and marginalized environment from accessing hence widening the inequity gap, learners with disabilities have their own challenges, learners suffer from social isolation and parents are ill equipped to with remote learning (Republic of Kenya, 2020; Parsitau and Jepkemei, 2020).

Other studies reveal that online learning adoption when both children and parents lack the skills to utilize it may introduce new or increase the risks of various forms of online exploitation including sexual exploitation creating room for sexual abuse (UNICEF, 2020). Similarly, online learning results to prioritizing among the children which in most cases girls face exclusion in order to undertake domestic chores at home. This consequently increases girls' chances of dropping out due to the prolonged school closures (UNICEF, 2020).

In Kenya, school closures due to Covid-19 has impeded learning and compound inequities affecting mainly disadvantaged children with adoption of remote learning being highly unequal and a challenge for marginalized learners. For example, the school closures have negatively affected the refugee children for whom school provided safe space for interaction with peers, psychosocial support, and even a reliable source of food, hence, exacerbating their mental health issues (UNESCO, 2020). Consequently, prolonged school closure and home confinement negatively affect some children's physical health making them gain unnecessary weight (UNESCO, 2020). Similarly, the closure of schools due to Covid -19 and the adoption of online learning posed risks such as widening of the inequality gap, inequity, access and quality education among students in poor, vulnerable and marginalized areas such as slums.

Additional challenges to learning relate to little or lack of parental engagement due to either their work schedule, low level of ICT or competing priorities at home, there has been increased exposure to pornographic material, drug and substance abuse, increased rape and gender-based violence, risked neglect, abuse and segregation of children with disabilities, hence being lonely. Learners from low-income households miss meals which schools provided, while girls on the other hand lack sanitary towels usually provided by government and partners, risk of child-labor, while uncertainties of re-opening school for all learners and date for national exams increase anxiety and psychological trauma among parents and learners (Republic of Keya, 2020).

The governments of many African countries temporarily closed all educational institutions in an attempt to contain the spread of the COVID-19 pandemic. In Morocco, the education minister announced the closure of all schools and universities starting from March 16 until an indefinite date as a precautionary measure against the coronavirus outbreak and that classes would be substituted by distance learning. Across the Eastern African region, that is Ethiopia, Kenya, Tanzania and Uganda, the impact of COVID-19 pandemic has been felt in different ways and the measures taken by the respective governments have also differed on the areas of focus and comprehensiveness in all the sectors. In Ethiopia, for example, the Prime Minister announced the closure of schools across the country and banned all public gatherings, including sports events. Kenya, Uganda and Tanzania also put in measures similar measures such as extended closure of schools but with varying degrees and period (Ozili, 2020).

3.2. Global strategies adopted for Teaching and Learning due to Covid-19

Given the sudden and unprecedented education disruption, emergency initiatives to enhance learning had to be embraced by governments and other education partners (World Bank 2020a). The Global Education Coalition support remote learning in countries to curb the impact of school closure particularly for the vulnerable and marginalized communities (UNESCO, 2020). Currently the World Bank is working with ministries of education globally in support of remote learning opportunities for students while schools are closed due to Covid-19 pandemic (World Bank, 2020). In the developed countries such as Korea the government supported the cost of network operators zero rating educational websites for all students until the end of May. It also provides online teaching-learning platforms, where teachers can set up an online classroom and post online assignments, surveys, and group instant messaging services for open class discussions as well as track student learning progress. In Paraguay, the government signed an agreement with Microsoft to cover the e-learning needs of 60,000 teachers and 1,200,000 students at zero cost. While in Russia, online platforms such as Russian online school are available for teachers, pupils, and parents (World Bank, 2020). In Canada, the Ontario government partnered with private industry to deliver iPads with free wireless data to deliver distance learning to those without access to instructional and learning technology (Freeman et al, 2020).

In America, Mississippi Department of Education (MDE) signed into law the Corona virus Aid, Relief, and Economic Security Act (CARES Act), channeling more resources to the use of technology to support implementation of distance learning opportunities, professional development, training, and support to enhance effective daily use of instructional technology, assistive technology, Career and Technical Education (CTE) equipment and summer learning and supplemental after-school program planning and implementation (MDE,2020).

In order to ensure uninterrupted education in Bangladesh, their Ministry of Education (MoE) supported the teachers to conduct online classes and started telecasting distant learning programs for the students in both schools and colleges. Their online education was mainly focused at higher level of education in the country (Alaul, 2020).

3.3. Strategies Adopted in Africa for Teaching and Learning Due to Covid-19

African countries were hit by the Covid-19 pandemic way after other countries had been affected. Thus, their responses followed from some of the practices that were already in place elsewhere. The efforts to strengthen energy infrastructure, internet access, and technology use in education, including exploring reduced cost opportunities with mass media and mobile telecommunication providers to create or expand access to distance learning platforms was pursued to enhance education (UN,2020).

The UNESCO's (2020) four response and actions to the consequences of COVID-19 in Africa included:
• The development of online platforms and other channels of service delivery, including radio and television as a quick way to ensure continuity of education.
• The training of teachers in the use of information and communications technology and other delivery methods, to build and enhance their capacity in delivering education to learners.
• To support to governments across the continent to develop contingency plans, in light of the current emergency.
• The coordination of partners at the national and regional levels.
• To build the resilience of education systems to respond effectively to future challenges.
• The revision and development of new policies in the sub-sector, and finally, identification and development of thematic strategies to address future challenges.

Given the magnitude of the pandemic and the rush to close down institutions of learning in order to prevent the spread of the Corona disease, some of the above preparedness mechanisms and responses were not met. For example, neither adequate training in ICT nor a wider internet coverage is realized yet. Consequently, the measures taken to adopt online learning presented here found most Africa countries unequipped.

3.4. African Responses to Continue Education during Covid-19 Pandemic

The education responses for most countries were dependent on the magnitude of the spread of Covid-19. Thus, the timing of closure of schools and the mode of continuing education varied from country to country. However, the resolution to adopt online teaching and learning seems to cut across all countries. In Angola, for instance, the authorities declared a state of emergency on 27 March resulting in a two-week lockdown which was subsequently extended and the government developed a plan to control the coronavirus pandemic through the development of e-learning training packages to enhance education among other strategies (Ozili, 2020).

Egypt announced distance learning and assessment programs while the government of Liberia announced a free access to online educational content via website that includes Khan Academy, Wikibooks, Wiktionary, Wikipedia and

Vikidia. In Libya, the education ministry signed a deal with local television stations to broadcast 'compulsory' lessons for middle and secondary school children. In Morocco, the government put together content to help students with online learning up to university level while in Tunisia Arab League Educational, Cultural and Scientific Organization (ALECSO) launched an e-learning initiative to ensure the continuity of learning and teaching (World Bank, 2020).

In Malawi, many interventions undertaken include implementation of safe school operations and risk communication, supporting continuity of learning at scale and planning for remedial learning and recovery, conducting sample assessments at different grade levels to track progress in key areas like early grade literacy and numeracy and key subjects at secondary, identifying and addressing specific poverty and gender barriers to continuity of learning, providing radio education programme for primary and secondary level and online education for tertiary level and care and support for Orphans and Vulnerable Children (OVCs) that included providing of take-home rations to orphans and child headed households (Republic of Malawi, 2020).

In Kenya, online learning program designed to enhance learning are delivered using online learning or technology-mediated learning on TV, radio, Ed-tech apps, and mobile phones (World Bank, 2020; Parsitau and Jepkemei, 2020). Similarly, there is partnership with the Kenya Publishers Association, where electronic copies of textbooks have been made available for free on the Kenya Education Cloud for all students. Additionally, Safaricom, a private mobile network operator, has partnered with Eneza Education, Longhorn Publishers and Viusasa to support primary and secondary school students with free access to educational e-content (https://www.standardmedia.co.ke/article/2001367620/safaricom-content-providers-in-deal-to-offer-free-digital-learning)

3.5. Challengesof Online Teaching and Learning during Covid-19

According to the UN (2020) the prolonged school closures at all levels, combined with wide-spread economic hardship, risk undermining aspirations, potentials and widening inequalities. The adoption of remote learning due to Covid-19 pandemic has faced many challenges. In sub-Saharan Africa, close to 90 per cent of students do not have access to household computers and 82 per cent are not able to get online. School closures have left over 330 million learners of all levels and over 8.5 million teachers, unable to learn or teach from home. While mobile phones can support young learners, around 56 million live in areas that are not served by mobile networks, and access numbers are consistently worse for girls and women due to the largely patriarchal nature of society that naturally determines males as the ones who own and operate valuable items such as mobile phones. Even where computers are provided, unreliable power supply and poor internet connection, coupled with financial costs, undermine the impact of such investments especially in slums and remote villages.

The global average for connectivity indicates that only half of the population has access to internet, with the condition worse in developing countries, hence affecting students' formal learning (Drane et al, 2020). Further, condition in low socio-economic status risks children being subjected to long-term educational disengagement, digital exclusion, poor technology management and increased psychosocial challenges. Among the disadvantages identified for distance / online / mobile / e-learning include: various distractions, lack of technical skills by majority of teachers and students; lack or minimized social interaction among students, compromised quality of both teaching and learning, need in taking measures to discipline and organize students less personalized contact with teachers, less individual approach to learning, less contextualized approach, limitations with specialties and difficulty in getting teacher's scaffolding (Doghonadze,Aliyev,Halawachy,Knodel andAdedoyin, 2020). Adoption of remote learning with restrictive measures of Covid-19 may exacerbate existing gains in education due to evidence that in many developing countries, children learn much less than the goals set out in the official curriculum.

The global-scale expansion in remote learning points to sharp disparities in regard to the support families offer to children, the amount of time utilized and resources available for them (Burgess and Sievertsen, 2020). In Philippines, the option for online learning was adopted in higher education with some degree of innovation by utilizing goggle classroom and web quest as well (Toquero, 2020). Among the Philippines myriad of challenges education system faced include planning, implementation and assessment as majority of teaches were not prepared to implement e-teaching and learning (Toquero, 2020).

A study done by Sutton Trust on implications of Covid -19 crisis for education at all levels of learning in the UK revealed that there are inadequate resources to utilize online learning. The study further reveals that about (34%) of parents with school going age children aged 5-16 doesn't have access to their own computer, laptop or tablet to facilitate online while at home (Montacute,2020). Additionally, the study points out the pathetic home environment, teachers in deprived schools being unable to facilitate online classes of teachers which deprive facilitating online classes challenges also existed between public and private schools, with teachers in disadvantaged public schools being facing the challenge highly (Montacute, 2020). Online teaching was also adopted in Azerbaijan, Georgia, Iraq, UK and Ukraine and challenges faced pointed at lack of technical skills and support by the teachers, students and parents (Doghonadze, et al, 2020).

In Indonesia the online teaching and learning of Arabic for elementary school had some positive aspect such as learners *being enthusiastic and interested.* However, teachers pointed out that during online learning there is lack of interaction between teachers and learners, it is difficult to identify activeness of the learners, it is difficult to know how parents are supporting the learners at home, also teaches face the challenge of designing the lesson for online and finally limited time allocated for online learning (Febriani,Widayanti, Amrulloh and Mufidah, *2020).*

In Saudi Arabia, despite their stability to switch to virtual learning approaches, the parents and teachers' barriers still had to be tackled. A study carried out revealed university students attended virtual classrooms, yet few were

dissatisfied with the amount of guidance received, faced interruptions in internet connections, had no immediate feedback to their concerns and didn't understand the content or assignments provided (Tanveer,Bhaumik, Hassan and UlHaq, 2020).

In Australia and New Zealand online learning in secondary and primary level challenges revolved around meeting students' needs from a distance, using educational technologies to support distance learning, teacher's well-being and teacher needs. On meeting student's needs from a distance, teachers were divided and concerned about the efficacy of online learning, student's social isolation, students who needed closer attention and/or motivation, teachers struggle to adapt to teaching methods. Students lacked access to technology and reliable internet in rural and lower economic areas (Flack, Walker, Bickerstaff, Earle, Margetts, 2020). In regard to varied educational technologies used, teachers expressed mixed levels of satisfaction with differing levels of confidence. Teachers also felt students' feedback was crucial. Additionally, teachers needed more planning time, and felt socially isolated.

In Canada all school boards directed distance learning to be adopted. However, nearly 10% of Canadians do not have reliable internet access, though internet service providers mitigate the connectivity gap, universal access to appropriate devices and broadband internet remained elusive (Freeman et al, 2020).

In Norway, adoption of online teaching revealed some challenges such as technological and pedagogical insecurity, Lack of equipment discouraged many teachers; Lack of appropriate space at home and care of children, some teachers have concerns about data privacy and challenges in redesigning interactive teaching to suit the e-learning mode; lack of contact with students and peer academics, and of feedback from students; while teaching that requires practical activities was impossible or difficult to organize online, there is also concern on their own health regarding the extent of work and time needed (Langford and Damsa,2020).

In many U.S. states, school-aged children and their families, in rural and urban areas, face serious limits to accessing online learning. The online learning adoption during the Covid -19 was faced with difficultyand unsustainable in balancing of asynchronous and synchronous learning, widespread use of synchronous video raised a host issues of 'zoom-bombing' and risks of inappropriate teacher-student contact and adhering to privacy (Reich, et al, 2020).

In Latin America and the Caribbean, adoption of remote learning in higher education faced the challenge of low connectivity mainly in low- and middle-income countries. Online learning was not been received positively as part of the challenge stems from the fact that the content offered was never designed within the framework of online learning, students' expectations varied in regard to enrolment mode to use and online learning demands discipline and commitment which undergraduate students may not cope (UNESCO, 2020).

In Bangladesh online learning challenges faced both the teachers and students as follows: both struggled in adapting to online due to the first time experience, internet facilities in rural areas are expensive and have poor internet signals even when using mobiles, a lot of technical issues was faced when handling the various online gadgets, poor time management mainly by students particularly during zoom and teachers found it difficult to manage feedback from students and guide them engage in learning materials (Alaul, 2020).

 In a follow up study on practice in primary schools in Ireland, Dempsey and Burke (2020) found that technology and access to on-line platforms is not universal for all schools. Online learning adoption still faced challenges of lack of IT devices, poor broadband, poor internet, and lack of adequate expertise of ICT skills for learners, teachers and parent. The adult education also faces challenges such as unreliable access to an internet connection and lack of digital literacy skills to engage in self-directed learning in a virtual environment (Boeren, Roumell and Roessger, 2020).

In Nigeria's tertiary education, the e-learning obstacles faced include irregular power supply particularly in rural areas, high internet subscription costs for both students and tutors coupled with poor internet access. Similarly, challenges posed by the e-learning education is the incapability of lecturers to assists learners develop the skills and training required to make the e-learning platform effective, and absence of physical personal interactions between students and lecturers and among their colleagues (Adeoye,2020,Doghonadze et al, 2020). In Malawi, the process of adjusting to new ways of working using technology was impeded with poor connectivity in some parts of the country and unavailability of funds for facilitation (Republic of Malawi, 2020).

In Africa UNESCO (2020) analysis of Covid-19 effects on Education due to mass closure of schools, universities, technical vocational training centers and other centers of learning across the continent, deprived many learners of both their right and access to education because in most parts of Africa, adopting remote learning is not a very viable option. A further challenge due to close of institutions is the social impact especially on girls who no longer have access to school, and are likely to be exposed to increased harm in their communities, including teenage pregnancies. The immediate and long-term consequences of school closures will inevitably further exacerbate inequalities and disparities in the education sector for all the learners especially those from low socio-economic environment. Similarly, Ozili 2020) revealed that the absence of a robust online learning platform or distance learning educational programmes in some African countries is making the continuity of education very difficult.

Shortage and/or inadequate digital literacy and infrastructure to facilitate learning is another set-back for emergency online education in Africa. In Kenya, for instance, adoption of online learning in the universities mainly focusing on postgraduate students varies due to the ICT challenges still facing both students and lecturers mainly in disadvantaged areas (Nyerere, 2020; Nganga, Waruru and Nakwenya, 2020).According to Ndede-Amadi (2020) the challenges facing higher education in Kenya in facilitating the online learning included: shortage of ICT facilities and equipment's in the universities, academic staff were inadequately prepared to handle effectively online learning, high cost of data bundles for both students and lecturer to access and utilize online materials, majority of students lack technical skills to access online material and lack of internet access in rural areas. Similarly, in primary and secondary schools

learning mediated through Edtech remains out of reach for many disadvantaged children due to connectivity, cost of internet and privacy challenges (Parsitau and Jepkemei, 2020).

3.6. Assumptionsand Implications of Online Teaching and Learning in Africa during Covid-19

From the foregoing, the Covid-19 pandemic prevention measures have challenged the traditional mode of teaching and learning globally but developing countries are hard hit. What is most notable is that although online teaching and learning mechanisms that have been adopted by most countries to mitigate the problem of disruption of learning depended on the level of ICT and experts' best decisions made had adverse effects on both the process and outcome of learning. For example, the quick shift to online learning during the Covid-19 pandemic was based on the assumption that teachers and learners are competent in ICT or that they can easily adapt to the switch naturally. This in turn disadvantaged teachers and learners who by the time of school lockdown had neither the appropriate gadgets nor the requisite knowledge on how to navigate through the entire process.

On the part of parents and guardians, it was taken for granted those parents and guardian of learners, especially in lower grades, had the resources and requisite knowledge for online learning with its demands. However, this is not the case because most parents and guardians are ill prepared for the adopted mode of teaching since, in developing countries, owning gadgets deemed necessary for online learning (such as Smart phones, laptops, TV, etc.) are a luxury for families who struggle to meet the basic needs of their children on a daily basis. On the other hand, parents or guardians may possess the gadgets but are among the category of personnel offering essential services in health care facilities or security hence cannot closely monitor the learners Additionally,

The learning abilities and differences of learners seems to have largely been disregarded in the whole process. Consider, for instance, the case of children with hearing impairment who can only access a radio through which instruction is taking place, like has been the case in Kenya. The result is that no learning has so far taken place for such learners. Thus, it is worth noting that the children with disabilities have a double crisis during Covid-19 pandemic. This is because, the heterogeneity of distant learning alternatives lacks accessibility features for learners with sight or hearing disabilities and further, emergency modalities for learning, such as TV and radio, are less likely to work for children with sensory impairments. The negative impact on girls could be disproportionately high and long in paternalistic societies since Intra-household allocation of ICT resources for home schooling and/or at the community-level are likely to be redirected to boys (Azevedo, Hasan, Goldemberg, Iqbal and Geve, 2020)

Additionally, most teachers and lecturers had no prior preparation on development of interactive learning material and activities to cater for all types of learners. Thus, learners who are ordinarily easily distracted during the learning process are likely to have been disadvantaged because they are neither engaged in the learning nor is the teacher able to track and attend to them because of the remote teaching.

The adoption of online learning further took for granted the need for interaction of learners in the classroom among themselves, and with their teachers as constituting an important aspect of the active learning process. This is why some of the challenges mentioned above have pointed lack of interaction as a factor, including between teachers and their peers. The implication here is that there is learning that takes place outside the instruction context, but has been undermined by the online mode of teaching and learning.

Given the reliance of online learning on electric/solar power and internet connectivity, teachers and learners in remote/rural areas of the world have been disadvantaged. This is because; some areas have no electricity and have poor or no network coverage. In Kenya, for instance, internet coverage varies from place to place and proximity to city/town centers may be an added advantage for some people. This means that teachers and learners in some parts of the country have not been able to facilitate/access learning material since the closure of schools; hence no formal learning has taken place.

4. Recommendations

It is worth pointing out that the Covid-19 pandemic has brought with it positive revolutionizing of teaching and learning in most countries, especially those who had not fully embraced the online mode prior to Covid-19. Additionally, the situation created by the pandemic has propelled education stakeholders to re-think instruction and learning modalities during crises. In most boarding schools in Africa, for example, the use of mobile phones by learners has been prohibited because of the belief that it was a source of destruction to learning; yet at the moment, it has turned out to be a sought-out asset for learning. In this regard, the education stakeholders have had to engage in a mental shift regarding ICT gargets and their value in education.

Although the move to remote learning had shown nothing could replace the effect of face-to-face teaching, the technological challenges and advances brought on by the pandemic should give people new perspective on classroom technology that enhances a safe space for critical thinking, rational debate and constructive dialogue. In this regard, the following recommendations suffice:

4.1. EnablingPolicies for Remote Learning

African countries need to relook at the focus of their policies on ICT. Education policy revision that enhances massive training for teachers, learners on digital literacy are essential. There is also need for African governments to prioritize development or strengthening of infrastructure that enhance access to remote learning by all learners.

The negative and positive lessons gained from the covid-19 pandemic should guide education stakeholders and other partners in education to modify/ come up come up with ICT laws that are accommodative to all learners in future. This will guarantee educational institutions to equitably compete globally in the 21st century.

4.2. ImprovedTeacher Development Programs

Despite the unprecedented situation presented by Covid-19 in the teaching and learning environment, exclusive use of traditional methods of teaching is long overdue. There is need to prepare all teachers to adopt modern teaching methods in the 21st century. To successfully attain this, teachers who are key curriculum implementers need to be prepared through their training and also retooling all practicing teachers continuously. The teachers support and development should be scaled up mainly in planning, designing, implementing and assessment is crucial to curb stagnation in future. The urgent area of concern is to entirely supporting teachers based on models that enhance adoption of a technology-enhanced pedagogy approach to enhance teaching and learning process in real the online context.

4.3. Blended Learning

Covid-19 challenges faced during the remote learning adopted in countries have presented opportunities to offer ICT integration priority even after the pandemic. Some institutions of higher learning in Kenya had to hurriedly offer e-learning/teaching training for their students and faculty in order to continue learning which had abruptly interrupted due to closure of the institutions. With the challenges experienced in the process, ICT enhancement sessions should be infused in student and faculty induction processes on a continuous basis for effective implementation of tech-facilitated education programs.

4.4. Learnersand Parents' Inclusion in Policy Making

The policy makers and planners in education should revise policies of teaching and learning to capture the learners and parents' voice. For example, integrating learner centered policies in the teaching and learning will ensure all learners in all contexts are represented; hence they will not be disadvantaged in future. Learners who have been excluded for decades particularly all categories of disabled learners should be reached out for varied views that will be adopted. Again, research on all developmental aspects of learners that include emotional, social and psychological needs require a clear understanding through research to better guide effective learning process in emergency situations that necessitate alteration of education programs. Similarly, parents' empowerment, engagement and involvement in all decision-making during planning, designing and implanting policies can help in enhancing their general participation especially when their time and resources are required for the implementation of the policies. A critical research is required to unearth areas in dire need to enhance teaching and learning in diverse environments. Apart from inclusion, proper communication channels should be adopted to reach out to parents and students equitably and consistently in order to address their daily constraints on teaching and learning process.

4.5. Post-Covid-19 research

Given the nature of unpreparedness of African countries to adapt to the implications of Covid- 19 pandemic in education, there is need for an extensive research on post COVID -19 in all the levels of learning in order to build resilience and strengthen education systems and institutions against the experiences that affected their general well-being. This will be helpful for in devising mitigating measures to handle any unforeseen future shocks on learners and teachers, as well as reveal immediate gaps that can be acted upon by all the education stakeholders to improve the teaching and learning.

5. Conclusion

In conclusion, the abrupt use of remote teaching and learning as a prevention mechanism to avoid the spread of Covid-19 among teachers and learners has ended up pointing to various education gaps in Africa. The education policy makers and planners should be cognizant of the risk posed by covid-19 and take immediate measures to curb inequality in excess of education. The successful strategies adopted that enhanced remote learning need to be scaled up to take care of any eventuality in the future. The myriad challenges still faced in remote learning are opportunities that allow for improvement in the education sector after Covid-19, especially, in strengthening ICT integration in education. The Covid-19 situation is a wake-up call for African governments to rethink their investment priorities for the sake of the digital direction that education in the 21st century must take.

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