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## **Managing High Quality Virtual Learning in Response to Covid-19; Learner and Faculty Preparedness, Inhibitors and Mitigations in Kenya's Higher Education**

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### **Abstract**

*Globally and Kenya in particular, the initial and sudden riposte to the COVID-19 disease was immediate shift of almost every course to virtual setting in substitution of face-to-face teaching as a remedy to minimize transmission of the disease, but many learners and faculty members were not prepared to learn and teach online. Higher learning institutions engaged in this significant change will require providing significant and constant assistance to learners and faculty to their learning management systems (LMS) for effective management and delivery of virtual learning. Perspectives on learner, faculty, and institutional preparedness and their associated challenges in view of mitigating them will assist institutions better realize their pre-COVID-19, Covid-19 and post Covid-19 status of their faculty, learners, and institutions themselves. Visible Learning theory which underscores the essence of the learner and the teacher, knowing what to do and how to do it in a teaching and learning process guided this perspective. This being a theoretical study, it utilized document examination as a method of qualitative research where documents are interpreted by the interested scholar to give meaning and voice in an assessment topic. The study collected information from published articles on virtual learning covering information about Kenya and other countries. The study employed purposive random sampling strategy as it only reviewed articles that were concerned with virtual learning. The review established that both staff and learners are inadequately prepared on e-learning. Significantly the review findings will inform policy and decision making to ensure that policy responses and measures expressly address questions on virtual learning preparedness.*

**Keywords:** *Managing, Quality, Virtual, Learning and COVID-19*

### **1.0 Introduction**

Higher education is the lifeblood at the heart of every nation's development owing to its fundamental role in social, political and economic development thus higher education is at the top of the food chain. In this regard the accessibility and quality of the education delivered to the youths will determine whether we are to compete globally or not (Lumumba, 2020). Furthermore, higher institutions of learning have in history been referred as avenues that riposte to home-grown, regional, national and international education related needs.

Notwithstanding this significant role this sector plays, it has been confronted with many challenges. The COVID-19 catastrophe being the most recent challenge has triggered swift and unprecedented distraction across higher learning institutions, impacting learners, lecturers, and institutions. Owing to sudden outbreak of this pandemic, the negative ramifications of the virus on Africa's approximately two thousand institutions of higher learning cannot be overstressed. As per UNESCO, nine point, eight million African learners are encountering interruption in education owing to the cessation of institutions of higher learning to contain the spread of the disease. Consequently, institutions of higher education had no option but to alternatively engage in use of information and communications technology (ICT) to deliver their programs online for their learners as part of their immediate instructional and institutional response measures. Conversely, going virtual is not such easy on a continent where only twenty four percent of the populace has access to the internet, reduced connectivity, outrageous costs, regular power disruptions among other challenges (Tamrat & Teferra, 2020).



These initiatives however noble have laid bare the digital divide among institutions of higher learning particularly the African continent: between the nations that boast of superior ICT infrastructure than others; between institutions of higher learning in a similar region, with some equipped better than others; and between learners in similar institution – the affluent who reside in metropolitan and the underprivileged in countryside who can hardly access or pay for the internet. The majority of institutions of higher learning in Africa don't have the ability to copiously deliver all courses online. The limited open universities in the continent that have that ability, their priority is commonly mature learners, those in careers and willing to advance their training. Though substantial number of higher education institutions in Africa and Kenya have been advocating amalgamated learning (a mixture of face-to-face and virtual learning) for the purpose of increasing access and enhance learning, barely any had intents for common face-to-face delivery to be wholly substituted. This then pauses a question on how higher education institutions in Africa and more specifically Kenya deal with the quality, inequities, access, preparedness and other challenges arising from the abrupt widespread use of virtual teaching and learning? (Mohamedbhai, 2020).

Similarly, like other countries, Kenya's closed institutions of higher learning in the course of the pandemic have encountered challenges of initiating virtual learning for their enrolled learners and getting money for remuneration of staff and meet other monetary commitments at a critical moment when main income avenues are waning (Nganga, Waruru & Nakweya, 2020).

It is important to earnestly pursue substitute modalities for the purpose of not leaving behind learners with no access to ICT gadgets. The excruciating truth of the digital gulf on the continent and country has to be systematically and tactically mitigated: stretching out to marginalized learners ought to be of urgency. While this is gaining momentum in Kenyan universities like Kisii, Nairobi, Kenyatta, Egerton among others, these institutions require to initiate a wide-ranging strategy and thorough complementary plan to ascertain that staff and learners utilize well the virtual podia (Tamrat & Teferra, 2020).

Indisputably quality of learning remains a challenge especially in Kenya's institutions of learning. Assessments by the government and non-state actors show that achievement remains quite low, especially for girls, learners from low socio-economic status and students in ASAL counties (Ministry of Education, Kenya, 2018). Qualified instructor shortages, inadequately trained instructors and ICT challenges are key contributing factors to low learning achievement compounded by the COVID-19 abrupt outbreak. It is on this premise that this theoretical study undertook to interrogate learner, faculty, and institutional preparedness on virtual learning and teaching and their associated challenges in view of mitigating them for the purpose of managing high quality virtual learning in response to covid-19 pandemic.

The COVID-19 catastrophe has offered a chance to re-evaluate students' and faculty necessities and develop appropriate digital learning strategies thus enhancing delivery of high-quality and equitable online teaching and learning. For majority in the tertiary, the idea that almost each instructor could abruptly at some point of time be offering their programs on virtual mode appeared unlikely. But it has come to happen. Within no time as an outcome of the swiftly spreading virus, nearly each tertiary institution had either shut or swiftly switched from physical teaching to virtual learning. For those relocating to virtual, the first aim was "make it run" for the sake of staying afloat (O'Keefe, Rafferty, Gunder & Vignare, 2020).

In spite of the average progress on virtual learning, studies on students, staff, and institutional preparedness for virtual learning lays it bare that mostly, staff and students have a challenge on how to efficiently scheme, develop, and deliver good quality instructions virtually. This requirement is the extreme for staffs at institutions helping underprivileged learners and first-generation learners, who are excessively impacted by the ongoing catastrophe as they have limited access to required infrastructure and technology (O'Keefe, Rafferty, Gunder & Vignare, 2020). While there is evidence of some IT, learning and teaching, and instructional design resources that may enable some academic progress presently on course, institutions of higher learning will require to offer increased assistance and extra channels of help to assist learners and staff as some of the inhibitors to be hypothesized, deliberated and mitigated in this theoretical perspective.

Visible Learning Theory whose proponent is Hattie (2012) underscores the essence of the learner and the teacher knowing what to do and how to do it in a teaching and learning process. For Hattie teaching is visible when the learner is aware of what to do and how to do it. For the teacher learning is visible when he or she conscious if learning is taking place or not. Learning and teaching are visible when the learning aim is not only stimulating but is clear.



Moreover, both the learner and instructor work in harmony to achieve the objectives, offer response, and establish if the learner has achieved the objective. The utmost effect of visible learning is evident when the learners assume roles of own instructors and instructors become students of their individual teaching experiences. In a productive classroom, both the learning and teaching are visible. This theory is vital in assessing effectiveness of remote and virtual teaching in higher institutions of learning. It provides opportunity to suggest strategies on the kind of interaction in the virtual learning process between the instructor, the student and the setting. It further affords the rationale for crafting meaningful leaning experiences within the E-learning platform which is the bedrock of this theoretical perspective. As higher institutions embark on virtual learning amidst COVID-19 pandemic, the pertinent questions to ask is how visible is virtual learning? Do the teacher and the learner know what to do and how to do it in the context of virtual learning? This will be part of the engagement of this critical perspective.

Further the study will be guided by Vygotsky's Social-Cultural Development Theory. The theory emphasizes that learning and teaching are extremely social undertakings and that communication with instructors, peers and teaching resources impact the affective and cognitive growth of students (Kim & Baylor, 2006). The model contends that learning is achieved when students interrelate among themselves, or have other social interaction. Students construct connotations with persons in the learning setting, and they accomplish aims by interrelating, both overtly and covertly, with the instructor, peers, resources, and atmosphere entrenched in the setting. This theory interrogates the recent initiated virtual learning platforms in higher institutions in terms of how interactive they are, conceptualized and designed with the view of inculcating essential paradigm changes that will enable the creation of rich virtual platforms which will motivate all students and assist them unleash their potential.

## **2.0 Methodology**

The study selected and reviewed empirical literature related to the study between 2005-2020. Document examination as a method of qualitative research was utilized, where documents are interpreted by the interested scholar to give meaning and voice in an assessment topic (Bowen, 2009). The study collected information from published articles on education policy covering information about Kenya. The study employed a purposive random sampling strategy as it only reviewed articles that were concerned with virtual faculty and learner learning preparedness, inhibitors and mitigations.

## **3.0 Results and Discussion**

The study sought to review virtual learning in response to covid-19; learner and faculty preparedness inhibitors and mitigations in Kenya's higher education institutions.

### **3.1 Faculty and Students Unequal Access to Digital Devices and Resources.**

It is factual that unequal access to education resource by learners poses serious challenges to vulnerable category of these learners. In Kenya, Ministry of Education Sector Disaster Management Policy drafted in twenty seventeen and flagged off in twenty eighteen emphasizes that, varied categories of calamities hit the nation occasionally. Subsequently, it is necessary for Education Emergency interventions to be planned to respond to the various and unique wants of the concerned groups where students stay. Regrettably, this has not been actualized (MoE Disaster Management Policy, 2018). According to the Communications Authority of Kenya (2019), less than half of the population (43%) is using the internet from any device. The Kenyan Ministry of Education the Sessional Paper of 2018 on Reforming Education and Training for Sustainable Development recognizes the fact that unequal access to educational materials especially digital by the marginalized students is a major concern. To remedy this scenario, MoE in Kenya projected the ensuing policy strategies for implementation which have not been acted upon to mitigate education digital concerns for the vulnerable and marginalized section of students:

- (i) Application of ICT to expand access to quality education for the susceptible and marginalized students.
- (ii) Apportioning of funds for the delivery of suitable ICT facilities as remedy to access, equity, and quality concerns in education for the susceptible and marginalized students.
- (iii) Application of ICT to inspire substitute modes of delivery like radio, mobile phones, satellites, television and computers to access the susceptible and marginalized learners.
- (iv) Make cheap acquisition of ICT facilities through enabled negotiations with the service providers for affordable rates for learning institutions.

Though good and sound policies if not implemented, they just accumulate dust in the kept shelves. As schools closed abruptly in March 2020 in Kenya, MoE turned to remote learning for basic education and tertiary education. In Sub-



Saharan Africa eighty-nine per cent of students don't have access to home computers and eighty-two per cent don't have access to internet. About fifty-six million learners live in locations not reachable by mobile networks providers as per UNESCO Report (Abidjan, 2020). A survey in Kenya by Nation Team immediately after closure of schools in March 2020, revealed that only a small section of the seventeen million Kenyan students many of them in town centers can access digital gadgets while their counterparts in the countryside are unable to study digitally. The situation is worse for special learners who are not catered at all. A survey by ICT Authority revealed that MoE has not installed CBC content into digital devices 3 years since its inception. The laptop project of over Kshs 30 million which was meant to provide laptops to class one in 2014 has not been a success story yet (Ouma, 2020).

In higher education sector in Kenya quite a substantial number of lectures are rapidly needed to shift their courses to entirely online setting, it is vital to undertake assessment of the facilities that they have accessibility to. Many of the faculty have accessibility to desktops or laptops issued by their institutions; conversely, substantial proportions of faculty are said not have accessibility to institutional provided devices. This submits that there are enormous gaps between the tasks the lecturers are being tasked to do and the gadgets that are being provided to accomplish that task. For learners, it is worse as most of them have no affordability and capacity to such digital devices. Though institutions might take for granted that staffs own and will utilize their own individual gadgets for virtual instructions many of the staff own laptops, smartphones, and tablets. Salient challenges associated to security and students' data confidentiality come about when lectures use individual gadgets for work associated to learners. As a panacea, institutions need to figure out how staffs will have accessibility to gadgets to deliver their content virtually where there are no institutional issued gadgets. Utilization of individually possessed gadgets to access the LMS or virtual storage to teach the course virtually pauses a few risks. Downloading students' data to those gadgets is when issues about security and confidentiality come into focus. A few learners in higher education institutions have access to digital gadgets that could be utilized for virtual learning but majority don't have (Christopher B. & Susan G., 2020).

### **3.2 Faculty and Learners Experience with Learning Management System (LMS) and Technology utilization**

Though many of faculty claim good rating for their involvements with several technologies that might be needed to change face-to-face courses into virtual ones, there are some substantial gaps. Definitely, a good number of faculty basically have not utilized some of the elementary technologies that could be required to deliver their courses virtually. This inadequate exposure with vital virtual technologies might decipher into substantial demands for and consequent strains on Information Technology.IT help desks as staff develop and implement virtual courses under this rushed and unanticipated situations may be of help. This might be particularly correct for courses that necessitate specialized software or that normally make use of studios and laboratory spaces as part of the physical teaching (Christopher Brooks & Susan Grajek, 2020).

As already stated, teaching staff might be ill-prepared to utilize the LMS to fulfill several of their virtual teaching prerequisites, nonetheless a substantial number of staff have already used some of the aspects of the LMS. In several instances, teaching staff utilize the LMS largely for administrative responsibilities like uploading course outlines, uploading assignments, and recording scores. Such uncomplicated acquaintances with and utilization of the Learning Management Systems' administrative functions is definitely optimistic beginning point for teaching staff who are needed to shift their courses virtual. Similarly, many learners have some know-how on how to use the LMS for their courses (regularly retrieving the course outlines or checking performance, but a substantial percentage of learners have trifling knowledge utilizing virtual teaching space platforms, particularly for more-involving course tasks (Chizmar & Williams, 2001).

Though more institutions of higher learning offer LMS and educational technology help for learners, many of the learners have not been accorded opportunity for any LMS training and are not aware if they have been trained. The absence of structured LMS training raises grievous issues for institutions demanding that courses be shifted virtually in response to the COVID-19 pandemic. Higher institutions should not take it for granted that learners devoid of formal LMS induction will be able to shift effortlessly into virtual learning setting. Further to lectures wishing to offer tutorials for their distinct courses, IT aid staff might get themselves to a situation where they are overwhelmed by learners in search of advice or requiring troubleshooting challenges as they start to shift all their courses to virtual platforms. Higher institutions of learning need to prepare for all these eventualities for effective virtual delivery (Joseph Galanek & Dana C. Gierdowski, 2020).

### **3.3 Faculty and Learners Teaching and Learning Environment Predispositions**



The entirely virtual learning environment into which courses are being shifted in response to COVID-19 pandemic runs counter to their teaching and learning environment likings. Majority of faculty and learners favor face-to-face interaction, with many desiring that their classes be mostly face-to-face. While some segments of students have a sturdier liking for fully virtual courses based on their individual situations, many still favor at least a slight face-to-face interaction. It is possible that some learners and faculty will resist the fully virtual involvement and might get disengaged or end up not performing as good as they should, given their inclinations for other categories of learning settings.

Additionally, learners have robust likings for certain kind of classroom tasks and assignments they perform in an entirely virtual setting. Taking exams, quizzes, tests, submitting homework or assignments, peer-grading tasks and course-like chats are the tasks that learners quite often fancy to perform in an entirely virtual setting mostly, but fairly few learners fancy this setting even for the tasks most suitable to it. Comprehending these likings can assist the faculty make verdicts on how to change or abandon tasks that were initially premeditated for face-to-face learning settings. This information might also assist teaching center staff to design focused support for aiding understanding and addressing the root causes of learners' likings (Ashley, 2019).

### **3.4 Faculty and Learners' Attitude about Online Teaching and Quality**

Part of the whys and wherefores for faculty and learners not being enthusiastic with virtual learning and teaching is that they don't believe that it assists learners to learn efficiently. In spite of awe-inspiring empirical proof validating the effectiveness of virtual learning, only few of faculty agree that virtual learning can assist learners learn efficiently. As underscored concerns in the virtual learning and teaching majorly concerns course quality, yet it is worth noting that several of the worries concerning quality of virtual programs emanate from teaching staff who have not yet participated in virtual teaching (Jones & Moller, 2002; O'Quinn & Corry, 2002 & Schifter, 2000). These lectures see virtual teaching as compromising quality and consequently would rather prefer not deliver through the medium. Teaching staff are also worried about the distortion of information available in the internet (Dooley & Murphrey, 2000).

### **3.5 Faculty concerns on their job security**

Some teaching staffs feel endangered by technology and are worried that virtual programs and courses will substitute their face-to-face learning teaching experiences. The uneasiness of the faculty is about their threatened careers and the transformations within the sector and the risks those transitions pose to their job security. Moreover, teaching staff don't have clear information on the policies concerning copyright matters and are worried about the unclear intellectual property rights especially on what they upload on multimedia (Dooley & Murphrey, 2000). Institutions of higher learning should strive to have clarity on intellectual property rights if virtual teaching and learning is to be fruitful, campaign for attitude change and assure their faculties that online teaching and learning doesn't threaten their jobs and urge them to embrace change if they have to survive the changing times.

### **3.6 Administrative failure to recognize virtual Teaching and Learning**

Major deterrent for LMS and virtual teaching and learning is the failure by administrators to recognize teaching and learning via online education. Time dedicated to teaching or designing online courses is not as highly valued as is time taken on research or even on time taken teaching "traditionally" face-to-face programs. Hence the failure to recognize this effort is a major deterrent especially as it doesn't attract appreciation and promotion hence low faculty participation (Lee, 2001). This scenario is worsened by insufficient grants for materials, software expenses, design and development of programs (Bonk, 2001 & Chizmar & Williams, 2001). Another deterrent is financially related, is the absence of merit remuneration or financial earnings for staffs who design or teach virtual courses (Dooley & Murphrey, 2000; Schifter, 2000; O'Quinn & Corry, 2002).

### **3.7 ICT in education policy enhancement**

The MoE's current ICT in Education policy was crafted in 2006 and is yet to be updated. The strategy underscores strategic pillars for education ICT execution:

- i. Technical aid
- ii. Digital content development
- iii. Creation of a policy framework
- iv. Digital facilities
- v. Legal and regulatory framework



- vi. Connectivity and network facilities
- vii. Harnessing emerging technologies
- viii. Research and development
- ix. Integration of ICT in education
- x. Training or capacity building
- xi. Partnerships and resource mobilization
- xii. Monitoring and evaluation

Though the policy framework has not been updated, the government has continued to invest in and implement ICT integration programmes under the administration's Digital Learning Programme (DLP). An example is Digischool (Brand name for the Digital Literacy Programme (DLP)), an initiative of MoE, MoICT and ICT Authority, which focuses on the integration of ICT into teaching and learning in primary schools. The expansion of Digischool for ICT integration into education is also referenced in the Vision 2030 Third Medium-Term Plan 2018–2022. This has not been actualized in secondary schools and higher institutions of high learning to guarantee quality education for all learners.

#### **4.0 Conclusion**

Conclusively, it is imperative to be ahead of the game purposely to envisage seamless learning in critical situations as evidenced by infectious diseases, like COVID19 and others to ensure that learners do not lose out on essential learning times that could have an impact on their developmental milestones. Therefore, continuing education, through alternate learning pathways must be a top priority for higher education sector to ensure that the disruption to education sector is as limited as possible. Measures to mitigate any emerging challenges from planned platforms like LMS are critical to ensure that higher education institutions are able to provide access to quality, equitable and inclusive education to learners during and after the crisis.

#### **5.0 Recommendations and mitigations**

There is need for MoE in Kenya to carry out a survey and assess the preparedness and select the most appropriate tools for digital learning across all institutions: MoE through the survey can resolve on the utilization of high-technology and low-technology solutions based on the reliability of internet connectivity, power supplies, and digital skills of instructors and learners. This might range from combined digital learning platforms, MOOCs among other platforms (Areba, 2020).

Institutions of higher learning need to consider how staffs will have accessibility to gadgets to deliver their content virtually in the absence of institutional issued devices. Since using individually possessed gadgets to access the LMS or virtual storage to deliver the content virtually pose a number of risks like security and confidentiality particularly on student data.

Higher institutions of learning should be prepared to accommodate learners who either don't have access to gadgets at all or lack gadgets that are well-suited with the institutional Learning Management Systems (LMS) through setting aside funds for the provision of such important infrastructure.

It is imperative that learners are provided with guidelines on how to utilize the LMS and instructions for circumnavigating the idiosyncrasies of specific courses can develop their learning practices. Lecturers ought to plan for extra time this especially apt when moving brusquely to virtual learning. IT technical faculty ought to be equipped to offer immediate help for them. Moreover, faculty ought to consider utilizing flexible and asynchronous techniques to teaching and deadlines to have onboard learners with limitations or crises that might inhibit them from joining synchronous classes or who totally don't have steadfast Wi-Fi or broadband access (Chizmar & Williams, 2001).

Faculty will need vital help from IT experts, instructional designers, teaching and learning center staff to effectively change and teach their courses. Additionally, lectures will require to ascertain that resources posted in the virtual space are accessible for all learners, as well as those with incapacities.

The teaching staffs shifting face-to-face courses to entirely virtual should fashion engaging and solicitous learning understandings to get learners to be interested and get involved with the virtual environment. Both staff and learners will require assistance from others in the institution like IT to assist them come up to speed, teaching and learning centers to aid teaching staff review their prospectuses and teaching approaches (Joseph & Dana, 2020).



On learners and faculty attitude on virtual learning, taking the advantage of the present circumstances of COVID-19, higher institutions of learning have chance to teach faculty and learners on the effectiveness of virtual teaching and learning in the new norm and to aid their resolve to change and teach their courses virtually. Similarly, institutions of higher learning ought to be prepared to manage possible backlash and resistance through attitude change. (Berge, 1998; Parisot, 1997).

Institutions of higher learning should strive to have clarity on intellectual property rights if virtual teaching and learning is to be fruitful given that teaching staff don't have clear information on the policies concerning copyright matters and are worried about the unclear intellectual property rights especially on what they upload on multimedia.

Institutions of higher learning should develop schemes of service and reward mechanisms for the faculties which exhibit exemplary achievements on virtual undertakings as a way of motivating them for more innovative practices.

There is need to update the MoE's current ICT in Education policy which was crafted in two thousand and six and is yet to be updated to guarantee quality education for all learners in all levels of education.

## References

- Abidjan, T. (2020). With Lockdowns Africa Gears up for Remote schooling; *Daily Nation April 24th Nation Media Group, Nairobi, Kenya.*
- Areba G.N. (2020). COVID-19 Pandemic Impact on Kenyan Education Sector: Learner Challenges and Mitigations; *Journal of Research Innovation & Implications in Education ISSN 2520-7504 (Online) Vol.4, Iss.2, 2020 (pp. 128-139)*
- Ashley A. Smith. (2019). "What Community College Students Say Impedes Their Progress," *Inside Higher Education.*
- Berge, Z.L. (1998). Barriers to online teaching in post-secondary institutions: Can policy changes fix it? Retrieved October 19, 2003 from <http://www.westga.edu/~distance/Berge12.html>
- Bonk, C.J. (2001). *Online teaching in an online world.* Retrieved August 20, 2020, from <http://www.courseshare.com/reports.php>
- Christopher Brooks and Susan Grajek. (2020). EDUCAUSE research on student, faculty, and institutional readiness for online learning 2020 D. Christopher Brooks and Susan Grajek; <https://er.educause.edu/blogs/2020/3/faculty-readiness-to-begin-fully-remote-teaching>
- Chizmar, J.F. & Williams, D.B. (2001). What do faculty want? *Educause Quarterly*, 1, 18-24.
- Dooley, K.E. & Murphrey, T.P. (2000). How the perspectives of administrators, faculty and support units impact the rate of distance education adoption. Retrieved on October 26, 2003 from <http://www.westga.edu/~distance/ojdla/winter34/dooley34.html>
- Hattie, J. A. (2012). *Visible Learning for Teachers. Maximizing Impact on Learning.* London. UK. Routledge.
- Joseph D. Galanek and Dana C. Gierdowski (2020) ECAR Study of Community College Faculty and Information Technology. <https://er.educause.edu/blogs/2020/5/ecar-study-of-community-college-faculty-and-information-technology-2020>
- Jones, A.E. & Moller, L. (2002). A comparison of continuing education and resident faculty attitudes towards using distance education in a higher education institution in Pennsylvania *College and University Media Review*, 9 (1), 11-37.
- Lumumba, P. O. (2020). Higher education – The lifeblood of development <https://www.universityworldnews.com/post.php?story=20200526102859360>.
- MoE (2018). Education Sector Disaster Management Policy 2018. Nairobi, Kenya.
- MoE (2018). Sessional Paper on Reforming Education and Training for Sustainable Development 2018. Nairobi, Kenya.
- Mohamedbhai, G. (2020) COVID-19: What consequences for higher education? <https://www.universityworldnews.com/post.php?story=20200407064850279>.
- Ministry of Information, Communications and Technology, Kenya. (2019). *National Information, Communications and Technology (ICT) Policy.* <https://www.ict.go.ke/wp-content/uploads/2019/12/NATIONAL-ICT-POLICY-2019.pdf>
- Ministry of Education, Kenya. (2016a). *Digital Learning Programme.* <https://www.education.go.ke/index.php/programmes/digital-learning-programme>



- Nganga, G, Waruru, M., & Nakweya, G. (2020). Universities face multiple challenges in wake of COVID-19 closures. <https://www.universityworldnews.com/post.php?story=20200407162549396>
- Ouma, W. (April 24th,2020). *Ugly Truth About Learning at Home*: Daily Nation pg.1-4, Nation Media Group: Nairobi, Kenya.
- O’Keefe, L., Rafferty, J., Gunder, A., Vignare, K. (2020, May 18). *Delivering high-quality instruction online in response to COVID-19: Faculty playbook*. Every Learner Everywhere.
- O’Quinn, L. & Corry, M. (2002). Factors that deter faculty from participating in distance education. Retrieved on October 17, 2003 from <http://www.westga.edu/~distance/ojdla/winter54/Quinn54.htm>
- Parisot, A.H. (1997). Distance education as a catalyst for engaging teaching in the community college: Implications for institutional policy. *New Directions for Community Colleges*, 99, 5-13.
- Schifter, C.C. (2000). Faculty participation in asynchronous learning networks: A case study of motivating and inhibiting factors. Retrieved on August 20, 2020 from [www.aln.org/publications/jaln/v4n1/pdf/v4n1\\_schifter.pdf](http://www.aln.org/publications/jaln/v4n1/pdf/v4n1_schifter.pdf)
- Tamrat, W., & Teferra, D., (2020). COVID-19 poses a serious threat to higher Education. <https://www.universityworldnews.com/post.php?story=20200409103755715>.
- Vygotsky, L. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

