INTRODUCTION
The outbreak of the Covid-19 pandemic posed a major disruption to universities and colleges across the globe. Most institutions of higher learning were forced to cancel face-to-face interactions amongst students and instructors and adopted online teaching. The pandemic similarly, poses the risk of significantly altering the academic calendar as well as major aspects of university life, including, admissions, academic programs and student activities. These concerns are compounded by the economic impact of the outbreak, which has resulted in financial instability due to reduced revenues inflow and increased costs for the educational institutions.
Because of the lockdown on the movement of people imposed by most governments around the globe, all academic institutions had to close. This was occasioned by the fact that Covid-19 is highly contagious and these measures were taken in an attempt to contain its spread. Large gatherings of people, of which university lecture halls are part, were prohibited. According to the UNESCO IESALC (2020) estimates, as of April 9 2020, the temporary closure of schools due to the Covid-19 pandemic had affected 23.4 million higher education students and 1.4 million instructors in Latin America and the Caribbean alone.

The African scenario was not much different—many activities ranging from economic, political to social interactions stalled because of the coronavirus crisis. The African Union Centre for Disease Control (CDC) officials termed the Covid-19 epidemic an “existential war for the continent” (Aseeey, 2020). The education sector, just like the other sectors, was adversely affected. The African learners are among the more than 1.5 billion students worldwide who have had their learning disrupted. This accounts for 72 percent of all students enrolled in various educational institutions across the globe (Marinoni et al., 2020). The educational institutions of Kenya were similarly closed down mid-March following a directive to that effect from the President of Kenya. School management and other education stakeholders were then tasked with the responsibility to find alternative approaches for ensuring that learners continued with their education.

In responding to the challenge of Covid-19, higher education institutions adopted a number of measures. As has been pointed out earlier, all universities and colleges worldwide (with the exception of a few in nations that chose to remain operation) were required to close down, some for the first time since they were established. In-person classes and social interactions were banned, and students sent home. Graduations and similar official academic ceremonies were also cancelled or postponed indefinitely. The second response to this crisis has been the adoption of online instruction. Seen as a safer alternative to face-to-face interaction, online classes, distance learning, TV and radio programs have increased in popularity during this pandemic (Smalley, 2020).

These approaches are not without challenges. Chief among these is the concern over the quality of education that can effectively be rendered to students remotely. Research has shown that academic performance, especially for learners who are already struggling to learn, can be seriously be affected by online tutoring. Similarly, online classes are also hampered by the fact that a significant population of the students do not have access to effective technology for learning, which includes a reliable high-speed internet connection and a computer. It is estimated that 20 percent of the student body in developed nations encounter this problem. The percentage is definitely higher for middle and low-income countries (Smalley, 2020).

Some higher education institutions have implemented strategies to assist students who find it hard to access online classes from their homes. These plans include keeping university and college libraries open for a limited number of students as well as providing mobile hotspots where such students can easily access them. Some have even gone to the extent of restructuring the grading system for online courses in order to support and accommodate students during this crisis. This involves shifting to a pass/fail grading system as opposed to the standard letter grades. This, however, is being implemented on a short-term basis because it may prove to be challenging if implemented for the long term (Smalley, 2020).

Over half a million higher education students in Kenya have had their learning disrupted by the Covid-19 pandemic that
The emergence of coronavirus in an attempt to keep abreast of the digital age by implementing online learning. Challenges for instructors include a lack of internet connectivity, inadequate well-coordinated infrastructure systems, cost implications for online preparation and teaching, challenges in assessing and evaluating students online. Students also encounter challenges such as inadequate resources like computers to access online classes, unavailability of internet access for students in rural areas, students with disabilities are not catered for, as well as the inadequate preparation for students in migrating to the online instruction model. Similarly, institutions face challenges such as infrastructural inadequacy, cost, and policy adoption to guide online learning, examination issues, students’ diversity, staff training and relevant resources (Nyerere, 2020).

RESULTS AND FINDINGS

a) How universities are prepared to deal with Covid-19

The University of Nairobi

At the University of Nairobi, the Institute of Tropical and Infectious Diseases announced it had configured its state of the art COBAS 6800 equipment to facilitate coronavirus mass testing. Vice-Chancellor Stephen Kiama said the equipment has a capacity to test about 3,000 samples in a day. He said the University of Nairobi engineering department is also studying various prototypes Prof Kiama said the university has engaged top legal minds in its law faculty to come up with a Covid-19 Response and Management Bill. “The bill covers all aspects of a pandemic from transport, waste management, job security, and many other aspects that will guide the country during future outbreaks,” said the VC.
In case of a reported infection in a particular cluster, the report recommends, that place will be closed, and tracking and isolation carried out. The cluster includes lecture theatres, halls of residence, student transportation and places of worship, among others. The whole campus will be closed if a number of clusters report positive cases.

UON will expand the triage space at the main University Health Service point and other nationwide campuses. Student sick bays will be expanded and temporary ones created in 35 campuses as well as the creation of isolation and quarantine centers. All halls and clusters will be reorganized and fumigated. The management will equip the University Dental Hospital to enhance its teaching capacity and provide Personal Protective Equipment.

It plans to obtain necessary licenses and logistics for Covid-19 testing within the UON teaching and service laboratories. All students and staff must wear surgical face masks while frontline workers will wear N95 face masks. The university will engage Kenyatta National Hospital for support in the care of suspected or confirmed Covid-19 patients. It will enhance mentorship, support and counselling services throughout the campuses and colleges. Automatic sanitizer dispensers and hand washing equipment with reliable water flow and soap will be placed at entry points to buildings, public places and areas with high traffic. “Face-to-face” lectures will be provided only to the number of students permitted by the guidelines. The number will be worked out and guidelines provided,” the report states.

Furthermore, JKUAT has introduced two types of high quality hand sanitizers that are able to kill all germs and bacteria whose presence on our hands could provide a conducive environment for contracting the dreaded Coronavirus disease. The gel and liquid (spray) sanitizers, which are rinse free and fast drying with moisture, are made from ingredients levels approved by the World Health organization (WHO) and the Kenya Bureau of Standards (KEBS) specifications. The University has the capacity to produce 1000 liters a day, though the quantity is likely to increase because of the interest so far shown by users. The product, they added, was aimed at providing a quick prevention of germs attack, especially in situations where water is not readily available. Besides the production of hand sanitizers, CPC also makes; hand washing detergents soaps, disinfectants, beauty creams and lotions, as well as decorative paints, that the public can place orders for purchase.

JKUAT is also producing 3-layer washable and reusable masks. According to the team leader of the project Ms. Mary Muthui of the tailoring unit, her team can make about 1000 masks per day, although they have the capacity to make more depending on the demand. A team of researchers at Jomo Kenyatta University of Agriculture and Technology (JKUAT) has developed a utilitarian web-based digital platform that provides diverse data that is key in predicting the Coronavirus (Covid-19) disease infection trends in Kenya. Commenting on the initiatives by researchers and student innovators, the Vice Chancellor, Prof. Victoria Wambui Ngumi said that JKUAT has a repository of experts in various fields who can work collaboratively to offer solutions to problems affecting the society.

Jomo Kenyatta University of Agriculture and Technology (JKUAT)

As reported by Wachira and Ombati (2020), JKUAT has developed a variety of COVID-19 fighting tools including a portable solar-powered ventilator, a contact tracing mobile application, an automatic solar-powered hand-washing machine, personal protective equipment as well as hand sanitizers.

JKUAT is also producing 3-layer washable and reusable masks. According to the team leader of the project Ms. Mary Muthui of the tailoring unit, her team can make about 1000 masks per day, although they have the capacity to make more depending on the demand. A team of researchers at Jomo Kenyatta University of Agriculture and Technology (JKUAT) has developed a utilitarian web-based digital platform that provides diverse data that is key in predicting the Coronavirus (Covid-19) disease infection trends in Kenya. Commenting on the initiatives by researchers and student innovators, the Vice Chancellor, Prof. Victoria Wambui Ngumi said that JKUAT has a repository of experts in various fields who can work collaboratively to offer solutions to problems affecting the society.

Kenyatta University

A ventilator, a coronavirus mass testing device and protective gear are among the developments by the
Kenyatta University was the first to announce a breakthrough in developing a ventilator prototype. Earlier, 16 students from various faculties developed the prototype, dubbed Tiba Ven, in about one week. Kenyatta University Vice-Chancellor, Paul Wainaina said the institution has the capacity to produce 50 ventilators a week.

Laikipia University

According to John Mureithi (April 2020), three computer science students at Laikipia University have developed a website containing the latest global data on Covid-19. The website: www.tsconnect.com records over 50,000 visitors a day, up from 400 when it was launched in the first week of April. The traffic on the website is huge, as it has attracted visitors from across the globe. John Mumo, Brian Mutiso and Francis Kinyoru, who came up with the innovation, are final year students.

In its partnership with County Government of Laikipia, the institution is developing ventilators used in intensive care units to aid patients in breathing, which would have otherwise been imported at a very high cost. The prototypes are almost ready and the county government is keen on purchasing the machines once they undergo all the certification process as part of its preparedness in the face of COVID-19 outbreak. Varsity plays its rightful role in fight against Covid-19. When Kenya reported its first case of Covid-19 four weeks ago, Laikipia County moved fast to institute the various hygiene guidelines spelt out by the Ministry of Health.

Engineers from the university were expected to test two of the ventilators in Laikipia in a few days. “The PPEs have been approved by the Kenya Bureau of Standards while 40 ventilators for Laikipia are in the development stage,” explains the VC. He added that they were also working with SMEs from Laikipia in production of hand sanitizers. According to Prof. Kioni, it is the role of higher learning institutions to identify the challenges facing the society and look for ways to counter them. Through the partnership with the devolved unit, the university has also designed and produced Personal Protective Equipment (PPEs) to protect frontline teams and face masks for the citizens. Demand for protective gear has been on the rise as more people across the world contract the virus. It has provided an opportunity for institutions to apply theories learnt in classrooms into practical use. University intervention has not only saved time but also money for the government. Importation of such equipment would have required lengthy procedures but the locally manufactured items are delivered on time.

A second-year student at the university, Brian Ndegwa, has developed an artificial intelligence system known as Rona to curb misinformation and unnecessary panic by providing clear concise answers on the COVID-19 pandemic. “When you ask Rona anything about Corona virus, you will get information from verified sources only,” says the Bachelor of Science in Information Technology student. Machakos Governor, Alfred Mutua recently challenged intellectuals at Kenyan universities to apply research and innovation to come with practical solutions this time when the world is reeling from the adverse effects of Covid-19. Laikipia University has also collaborated with the County Government of Laikipia in a business school to assist innovators develop business plans that would see them commercialize their products.

Kabarak University

The University is well served with adequate piped water from Rift Valley Water Services Board. The water is distributed into all buildings by the gravitational force from the elevated storage tanks. The University also harvests rainwater in some of the buildings, which has significantly
reduced the cost of water. The university water storage capacity is at least 3,176,052 litres. This ensures adequate water supply in the university premises. In partnership with the school of Pharmacy laboratories, the University to ensure adequate supply of high quality liquid soap that will be made available for hand washing at various stations throughout the campus. The University will also provide adequate quality hand sanitizers from various manufacturers and suppliers. Agro Chemical and Food Company Limited accredited by Kenya Bureau of Standards (KEBS), has been engaged for bulk supplies.

The University has made arrangements with Neat Hygiene Services, a company offering cleaning and fumigation services, to provide thorough cleaning and disinfectant services in all areas, including often touched objects such as doorknobs, light switches, stair railings and all the areas attracting constant human traffic will be fumigated weekly. In compliance with the 1.5 meter physical distancing protocol, the University has provided spacious classrooms, lecture theatres, libraries, laboratories, hostels and dining facilities. Notices and signs have been posted in various places notifying staff, students and visitors that social and physical distancing are mandatory at all times on campus. The University will strictly enforce the wearing of masks by all staff, students and visitors at all times. This regulation will be made mandatory and implemented in all entry points and throughout campus. The University will enable students and staff to access face masks at subsidized rates.

The University will provide waste disposal bins in strategic locations throughout campus, as per the Ministry of Health regulations. The University will provide thermo guns to monitor body temperature of students, staff and visitors, at the campus gates, hostel gates, and entry points to the main buildings.

Egerton University
There was evidence that the university was preparing to launch teaching on moodle and it was training its lecturers and other members of staff ahead of September-December semester. The university has a well-established e-learning center accommodating all the programmes. Materials are shared online and interaction too. However, administration of the exams is face to face.

b) Response of universities to covid-19
Kenyatta University
The registrar of corporate affairs at Kenyatta University, Prof. Grace Bunyi said that Kenyatta University is aware that many students are adversely affected by corona virus pandemic in both financial and social challenges following the closure of the university. She further said that the institution has committed to supporting vulnerable students through social and mental health support schemes. She later distributed food donations to students at the school gate.

Jomo Kenyatta University of Agriculture and Technology
The decision to close the university by the JKUAT senate was arrived at during its special meeting held on Monday, March 16, 2020.this followed the President’s directive on the suspension of learning in all educational institutions in Kenya due to the outbreak of the Covid-19 Virus, now commonly known as Coronavirus. The suspension of teaching and learning takes effect from Wednesday, March 18, 2020 with all students expected to vacate the University. According to the memo, “Members of staff offering essential services including those in the call centre, security, estates, catering, halls of residence, hospital, cattle herders and milkers will be required to report on duty”. The Vice Chancellor further directed that “...all staff and students to take the necessary precautionary measures as guided by the Ministry of Health to keep safe.” The JKUAT staff members are however expected to continue working from home as learning and teaching is expected to continue online until the Government reviews the Coronavirus situation in the country.
Kabarak University

Kabarak University, prepared intervention strategies and measures in readiness for the reopening of campus for face-to-face consultations, laboratory practical classes and final examinations. The university carried the May-August and September-December 2020 semester course offering and examination through blended e-learning mode (zoom and Moodle infrastructure). The university appointed the University Management Committee on the Implementation of Covid-19 Protocols and Preparedness for the Re-Opening of Campus for Face-to-Face Learning. The Committee presented the report to the vice chancellor and was approved by the University Management Board and the University Senate. By September Kabarak university was ready to admit approximately 9,800 students for September Semester 2020. The students were to come in a phased schedule for face-to-face consultations, laboratory practical sessions, and examinations.

c) Measures put to ensure January-May exams are done. University of Nairobi

All exams will be done online to avoid physical contact, while transport within campus will be minimized. In response to the negative effects of Covid-19 on teaching and learning, the University of Nairobi Senate approved guidelines and procedures for online examinations on 8th May 2020. The Special Senate was chaired by the Vice Chancellor, Prof. S. G. Kiama. The Senate relied on the provisions of Statutes- xxv that gives senate the mandate over all academic matters in the University.

The University had adopted e learning in March following the government’s ban on meetings and congregations to check the spread of the virus. During his online address to all staff and students, Prof. Kiama lauded the success of online teaching and learning at UoN. He observed that 5,564 online class sessions had so far been held from the time that the implementation commenced. The Vice-Chancellor thanked staff and students for their cooperation in adopting e learning. The Vice Chancellor reiterated that the guidelines and procedures for online exams had been benchmarked against global best practices and that the quality and integrity will not be compromised. The VC acknowledged that students with special needs and other disadvantaged groups may face difficulties in undertaking online exams but their issues shall be addressed individually as they arise. The online examination guidelines were developed in consultation with stakeholders including professional bodies and regulatory authorities.

With online teaching and learning streamlined, the University will now embark on preparations for the September graduation. ‘I want to share a message of hope with our final year students that their graduation will be held as scheduled on 25th September 2020’ Said Prof. Kiama. The University of Nairobi has today achieved a milestone by successfully conducting its first ever end of semester examinations online. More than 20 students taking Master of Arts in Environmental Law and Master of Arts in Environmental Policy were able to sit for their examinations right from the comfort of their homes. The university shifted to online examinations in order to provide students with options to complete their studies at a time when face-to-face exams are impossible to be held because of the Covid-19 pandemic.

Speaking to the university’s communications team, Centre for Advanced studies in Environmental Law and Policy (CASELAP) Director, Dr. Collins Odote said, “We used Google platforms to administer our exams-first we invited our students to Google Classroom so that we are able to see all of them and then we used Google Meet to monitor or invigilate the process-The successful online examinations process follows intense weeks of teaching and learning also conducted virtually via Google Suite, Zoom and Webex among other eLearning platforms. In his address to staff and students on May 8, 2020, Vice
Chancellor Prof. Stephen Kiama said that over 5500 virtual classes had already taken place and were still going on. While addressing the quality of the online exams, Prof. Kiama said, “As a World Class university all our examination guidelines and procedures have been benchmarked against the global best practice and we shall continue to ensure that they are reliable, consistent and of integrity.”

In his address to staff and students on May 8, 2020, Vice Chancellor Prof. Stephen Kiama said that over 5500 virtual classes had already taken place and were still going on. While addressing the quality of the online exams, Prof. Kiama said, “As a World Class university all our examination guidelines and procedures have been benchmarked against the global best practice and we shall continue to ensure that they are reliable, consistent and of integrity.” As part of the quality assurance process the university organized a series of training sessions in mid-March for faculty and administrative staff on eLearning. All these in an effort to ensure students continued to receive high quality education while staying safe from the coronavirus pandemic.

In a bid to bridge digital divide and ensure that no one is left out, the university has negotiated deals with network provider Telkom to provide free data bundles for faculty and students. However, for students with poor internet connection, the UoN continues to provide them with playback lecture videos and courseware packages. The University has responded to the current crisis by tapping into its existing investment in ODeL. Immediately the closure took effect, the University embarked on a programme to train its staff and students to enable them move their teaching and learning to online platforms. The activities that have been ongoing to support this transition are on course.

d) Measures put to protect staff and students

The memo dated Monday, March 16, 2020 through, JKUAT Vice Chancellor directed that “…all staff and students to take the necessary precautionary measures as guided by the Ministry of Health to keep safe. University management together with a team of counselors from the Dean of Students office organized a counseling session for the University staff who was attending to the quarantined persons that enabled the staff to share their experiences throughout the quarantine period, challenges faced and recommendations for future endeavors. Production of Branded Sanitizers and Masks by University’s Chemistry Production Centre Department will also help staff and students in the fight of Covid-19. They have developed pocket friendly branded sanitizers that have the capacity to kill all microbes. They come in 50ml to 5-liter packaging. The product is in two types: the gel and liquid (spray). The ingredients are as per the approved levels by the WHO and KEBS. The university has the expertise and capacity to make about 1000 liters a day.

The researchers have further developed Composite Risk Indices (sensitivity analysis using varying levels of interventions the ministry of health has introduced such as – hygiene measures, social distancing, personal protective equipment (PPEs), testing, contact tracing, mobility, social gatherings, frontline staff, population structure and household characteristics among others. Kenyatta University Vice Chancellor urged all students are to strictly adhere to the safety and health measures announced by the Ministry of Health besides the closure of the university.

University of Nairobi through their VC directed that, should an infection be reported in a particular cluster/venue, the report recommends, that place will be closed, and tracking and isolation carried out. Age and existing morbidities will also be taken into account. “The high-risk include age 60 and the presence of co-morbidities. They will work from
home but if they must come to the campuses wear N95,”
the report says. UoN will expand the triage space at the
main University Health Service point and other nationwide
 campuses. The university will involve the government to
help students safely travel from their locations to campus.
Part of the quality assurance process the university
organized a series of training sessions in mid-March for
faculty and administrative staff on eLearning. All these in
an effort to ensure students continued to receive high
quality education while staying safe from the coronavirus
pandemic

According to the United States Centers for Disease Control
and Prevention (CDC), older adults (at least 60 years old
and above) are at a higher risk of falling victim to COVID-19
and suffering more serious symptoms. The implications for
higher education institutions are considerable. Throughout
the world universities are characterised by significant
numbers of older people – senior professors, deans,
principals and vice-chancellors – all of whom are
recognised as some of the most important people in higher
education learning institutions by virtue of their disciplinary
expertise and experience. Kiama told University World
News. “The earliest retirement age for most professors is
usually at 70, and the University of Nairobi has quite a
number of experienced staff members who fall under that
category,” said Kiama. “Most of our activities right now,
including learning, will be carried out online and meetings
will also be done through teleconferencing.” Kiama said
the university is currently teaching its staff members how
to use the various online platforms to enable them to
conduct their duties from the safety of their homes. He
added that we have to maintain the protocols being
advised, which means that our postgraduate students will
also have to find a way to work with their professors
virtually. However, to ensure safety, the institution will be
providing masks for those who don’t have, and hand
sanitization will be mandatory. Any person coming to visit
me at the office will be expected to have a mask on and
will also have to keep a safe distance.

Kabarar University will facilitate public health education
with the aim of sensitizing members of staff and students
on the need to take personal responsibility in ensuring that
the virus does not infect them. The public health education
will also reinforce the WHO and Ministry of Health
protocols on prevention and spread of Covid-19. The
University will enhance the capacity of the University
medical staff so that they can handle covid-19 cases if they
arise. To achieve this, the medical staff will be trained
through the following means:

- Internal continuous medical education
- Subscription to webinars on Covid-19
- Liaising with the Ministry of Health, Nakuru County
- Providing medical staff with Personal Protective
  Equipment (PPE) for handling Covid-19 cases.

The University Medical Centre is open every day from
8.00am to 10.00 pm. In addition, a nurse is on duty from
6.00 pm to 8.00 am (overnight) to provide emergency and
minor services to patients. A resident doctor lives within
the University campus and can be called upon to attend to
the more serious illnesses and emergencies as needed.
Currently, a total of nineteen (19) appropriately qualified
staff members serve at the University Medical Centre.
These include two (2) medical officers, one (1) pharmacist,
two (2) clinicians, and five (5) nurses. The University will
provide a temporary isolation facility on campus with a
capacity for six (6) male and four (4) female beds,
respectively. The facility will be used as a temporary
isolation for suspected or confirmed Covid-19 cases
awaiting transfer to Nakuru County Level 5 Hospital, or
other treatment facilities. The University will work closely
with other partners, including the Ministry of Health,
Ministry of Education and the County Government of
Nakuru to ensure that staff and students are safe in all our
campuses it will further liaise with private developers with accommodation facilities outside the University to ensure that the accommodation facilities for students staying off-campus comply with the MOH Covid-19 Protocols. It was also work with County Department of Health to refer patients to County Hospitals. The University has designated telephone number 0071207981 as the helpline accessible 24/7.

e) Digitization of courses offered
The University of Nairobi had adopted e-learning in March following the government’s ban on meetings and congregations to check the spread of the virus. During his online address to all staff and students, Prof. Kiama lauded the success of online teaching and learning at UoN. He observed that 5,564 online class sessions had so far been held from the time that the implementation commenced. The Vice-Chancellor thanked staff and students for their cooperation in adopting e-learning. With online teaching and learning streamlined, the University will now embark on preparations for the September graduation. ‘I want to share a message of hope with our final year students that their graduation will be held as scheduled on 25th September 2020’- Said Prof. Kiama. In his address to staff and students on May 8, 2020, Vice Chancellor Prof. Stephen Kiama said that over 5500 virtual classes had already taken place and were still going on.

In a bid to bridge digital divide and ensure that no one is left out, the university has negotiated deals with network provider Telkom to provide free data bundles for faculty and students. However, for students with poor internet connection, the UoN continues to provide them with playback lecture videos and courseware packages. In his address to staff and students on May 8, 2020, Vice Chancellor Prof. Stephen Kiama said that over 5500 virtual classes had already taken place and were still going on. The University of Nairobi is not an exception and has had to find ways and means of adjusting by implementing its strategy of open, distance and e-learning. The University has a long history of distance learning that dates back to the 1960s. The long experience and the adoption of teaching and learning technologies overtime as they emerge has helped the university transition to online learning using its existing learning management system through its multimedia portal where digital content is hosted. Lecturers were also quick to keep contact with their students through social media such as whatsapp and teach using web conferencing tools such as Zoom, Google Meet, Hangouts and Class.

The open, distance and e-learning function of the University was revamped and relaunched in 2017. Its role was expanded and strengthened through Statute XXXVI, hence anchoring it by a structure that gave it the mandate to sensitise and create awareness in all programmes of the university, build capacity in courseware development and production, facilitate programme delivery and learner support and carry out research and evaluation of ODeL programmes and services. As a result of implementing this initiative, teaching staff have been trained to write study materials which have been converted and uploaded onto the University LMS and they have also produced videos of their lectures which are available in the LMS. During this period of COVID-19 crisis, students enrolled in ODeL programmes have continued learning every day through the use of multi-media approach. It is expected that those students will sit for their exams as scheduled and continue with the subsequent semesters.

Open, distance and e-learning allows learning and teaching to continue even difficult and special circumstances that conventional classroom based learning cannot allow. Over 10,000 students spread in over 25 programmes in the University have been going on with learning supported by over 400 tutors spread across the country. Kigotho (2021) posits that online learning through zoom meetings, Google Classroom and Cisco Webex have successfully picked up in
some departments of Jomo Kenyatta University of Agriculture and Technology.

Kenyatta University

According to Waruru (2020), online the learning during the COVID-19 lockdown has had its challenges for universities, but one the institution is not giving up, announcing that defense of masters and PhD research theses are to be conducted online. Kenyatta University said that defense of all these due during the closure period will be conducted via the digital platform Zoom, making the institution among the first in the region and one of the few on the continent, to venture into untested territory.

“Due to the pandemic of COVID-19 which has disrupted normal teaching in many institutions, Kenyatta University is conducting defense for both masters and PhD via Zoom,” said a university announcement attributed to the dean of the Graduate School, Elishiba Kimani. “Extraordinary times call for extraordinary measures and Kenyatta University staff has opted to go digital and offered to conduct defense through digital platforms,” it said. Sessions will take between two to three hours, with a panel in attendance, asking questions as would happen in face-to-face sessions. The statement did not say if the online defense was optional for those who may experience technology or access-related challenges.

Half a million-university students in Kenya are among the approximately 220 million higher education students around the world whose learning has been disrupted by forced closures of universities occasioned by COVID-19. Whereas many universities, especially those in developed countries, have successfully moved to online learning, learning continuity in Kenya’s universities has been largely haphazard as a result of the digital divide.

Kabarak University have been conducting their online learning through Zoom meetings, and Moodle classes, they are yet to conduct their final examination virtually beginning August 24th, 2020. The theoretical classes for the courses for September 2020 Semester will be offered through the blended e-learning mode.

Results and Findings

The Kenya National Bureau of Statistics shows that student enrolment for higher education has been steadily declining from 537,689 in 2016-17 to 507,473 students in 2019-20. Public universities have registered a 42 percent decline in student enrolment in the last two years. This trend is associated with the declining number of students who score the minimum university entry grade at the KCSE level.

The Covid-19 crisis has revealed the soft underbelly of what is online and distance learning programs in Kenyan higher education institutions. Upon issuing of the coronavirus containment guidelines, the President of Kenya advised these institutions to develop and implement policies to ensure that students are able to access and continue learning from home (Ndede-Amadi, 2020). The defining feature of online work is its contractual nature. People who work online usually prefer working on a contract basis which is then renewed every time there is a new task to be performed. With more higher education institutions implementing online and distance learning programs, the number of staff members working online and, therefore, on a contractual basis, are bound to increase. This will result in a high human resource turnover.

E-learning means that instructors who teach online classes do not need to be physically present at the institution for learning to take place. In fact, as a result of the pandemic,
some are opting to work remotely full-time. This means that post-Covid-19, more members of staff will work from home as opposed to having a physical office at the institution. The freed premises can thus be put to other appropriate use. Similarly, institutions that are just starting out will not need a lot of physical space, particularly in towns and cities where such offices are usually rented; thereby lowering cost (Hughes, 2020).

Kenyan public universities, like institutions in middle-income economies, are not yet ready to fully implement e-learning. Instructors who lack skills to teach as well as inadequate electronic content to constitute a curriculum for e-learning are to blame for the current problem. The government also, in collaboration with the institute of curriculum development, should support universities in developing curricula and making educational materials accessible to teachers and learners (Kigotho, 2020). Post coronavirus, it is possible that institutions of higher learning will require their existing employees to train in digital literacy while also bringing on board new employees with the necessary skills for participating in and facilitating online classes (Hughes, 2020).

CONCLUSION AND RECOMMENDATION

Conclusion: This study concludes that many institutions depending on government grants and tuition fees to enrol students will fail to enrol them for higher education, since the government will be looking to salvage the economy first. Also, lack of preparation by both learners and instructors to shift and interact exclusively on an online platform was another challenge. Most institutions did not have appropriate infrastructure for this, thereby affecting content delivery. Additionally, there has not been a deliberate effort to generate and disseminate content by the various stakeholders to facilitate online learning. Similarly, the presence of E-learning means that instructors who teach online classes do not need to be physically present at the institution for learning to take place. Also, people who work online usually prefer working on a contract basis which is then renewed every time there is a new task to be performed. Finally, it has been perfectly okay for university instructors and lecturers to concentrate on expertise in their field and not bother about computer literacy. However, with the Covid-19 pandemic, digital literacy has become essential for functioning as an instructor.

Recommendation: Universities should stop relying on tuition fees and grants and consider additional funding sources like fundraising, philanthropy and student aid programs. Higher education management should scrap the parallel fee program. Also, there might be a need for universities and colleges to implement comprehensive infrastructure, including training staff to handle online learning. Additionally, public universities and colleges will have to invest in learning and teaching platforms as well as digital libraries if the shift to remote learning is to be successful. The government should ensure that educational material are accessible and develop curricula for university in collaboration with the institute of curriculum development. Higher education management will also have to rethink its use of physical offices as a result of Covid-19. Similarly, there will be higher human resource turn over since the employed staff working online will be on contrary basis. Finally, institutions of higher learning will require new employees to train their existing employees in digital literacy.

References

Aseey, A. (2020). Follow the Bridge: Covid-19 and remote learning in Kenya. Research, Innovation and Enterprise Blog University of Nairobi. https://uonresearch.org/blog/follow-the-bridge-covid-19-and-remote-learning-in-kenya/.
Hughes, J. (2020). What does the future of work look like for graduates' post-coronavirus? Master Studies. https://www.masterstudies.com/article/what-does-the-future-of-work-look-like-for-graduates-post-coronavirus/.

Kigotho, W. (2020). Covid-19 – Fuelling a crisis already in the making. University World News. https://www.universityworldnews.com/post.php?story=20200518141038342.

Marinoni, G., Van’t Land, H., & Jensen, T. (2020). The impact of Covid-19 on higher education around the world: IAU Global Survey Report. France: International Association of Universities. https://www.iau.aiu.net/IMG/pdf/iau_covid19_and_he_survey_report_final_may_2020.pdf.

Ndede-Amadi, A. (2020). How Kenyan universities are coping with the Covid-19 pandemic. Great Lakes University of Kisumu. http://www.gluk.ac.ke/how-kenyan-universities-are-coping-with-the-covid-19-pandemic/.

Nyerere, J. (2020). Kenya’s university students and lecturers face huge challenges moving online. The Conversation. https://theconversation.com/kenyas-university-students-and-lecturers-face-huge-challenges-moving-online-136682.

Smalley, A. (2020). Higher education responses to coronavirus (Covid-19). National Conference of State Legislatures. https://www.ncsl.org/research/education/higher-education-responses-to-coronavirus-covid-19.aspx.

UNESCO- IESALC. (2020). Covid-19 and Higher Education: Impact Analysis, Policy Responses and Recommendations. UNESCO- IESALC.

Zeleza, P. T. (2016). The Transformation of Global Higher Education, 1945-2015. Springer.