

## **An Assessment of the Impact of the Covid-19 Pandemic on University Students' Lives in Kenya**

Jacklyne OKELLO ALARI<sup>1</sup>, and Joan WAKASA MURUMBA<sup>2</sup>

1. Kibabii University, P. O. Box 1699 -50200 Bungoma, Kenya
2. Sue and Radcliffe Killam Library, Texas A & M International University, USA

Correspondence: joan.murumba@tamiu.edu

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### **ABSTRACT**

The Covid-19 pandemic remains a historical world disaster, which affected all sectors. The suspension of physical learning in universities in Kenya raised eyebrows. This could not have been the case if proper disaster and business continuity plans were in place. The researchers were provoked to find out how the pandemic affected the lives of university students. The study was carried out across public and private universities targeting a population of 1110 students. A mixed methods approach was used, survey design was applied, simple random sampling was used to select the respondents, and primary data were collected using a semi-structured online questionnaire developed from Google Forms where instant data from respondents was analysed. It is evident that students' lives in the university were adversely affected by the Covid-19 pandemic. Flexibility and adaptability are needed to be able to respond to change. It is paramount that universities develop quality disaster management and business continuity plans (QDMBCP) to counter and manage disasters in future.

**Key word:** *Covid-19 Pandemic, Student Life, University, Kenya*

## I. INTRODUCTION

The COVID-19 pandemic almost brought the whole world to a standstill. At some point, the rate of infection was very high. From Wuhan in China the spread to other parts of the world would almost be compared to the speed of light. Europe in particular suffered the most. The number of infected persons and the deaths continued to swell as days went by. Individual countries took certain measures to contain the virus; a number announced total lockdowns, others stuck with partial lockdowns. In Africa, the first infections were linked to international travel. This led to countries stopping international flights. Kenya confirmed its first case on 12<sup>th</sup> March 2020 Ministry of Health (2020). This led to the Presidential Directive issued on 15<sup>th</sup> March 2020. Of interest was the directive that all Educational institutions suspend learning. In his communication, the President indicated Primary and Secondary schools suspend learning as from 16<sup>th</sup> March 2020 while Higher Learning Institutions were to suspend physical learning by 20<sup>th</sup> March 2020. The study sought to find out how covid-19 pandemic affected the lives of university students in Kenya to generate insights into how future disasters can be improved and develop a strategy to promote continuity. The specific objectives were to: find how universities supported students to adopt e-learning; examine how the Covid-19 pandemic affected the lives of university students; design and develop a quality disaster management and business continuity plans framework for universities to counter and manage disaster in future.

Covid-19 pandemic suddenly hit the world disrupting access to education, especially in sub-Saharan Africa, threatening the future of millions of learners (Nampijja et al., 2022). While it was quick to heed and act on the Presidential Directive, there was no definite date on when the closure of school would end. Educationists talked in silence as the second week drew near, their voices could be heard. What is the fate of the Education system in Kenya? The Ministry of Education (MOE) and Kenya Institute of Curriculum Development (KICD) swung into action. Content for primary and secondary schools was digitized and disseminated. There was a teaching timetable for this group of learners. Many materials were available online at some point one would be convinced that there was no need to take children to a school compound if they could learn comfortably in their houses and homes using TV, Radio, and online platforms under the guidance of their parents/guardians.

There is no doubt that every effort taken by the MOE to mitigate the impact of Covid-19 such as the provision of quality education targeted learners in basic institutions of learning in Kenya from pre-primary to secondary education. This was evident in a partnership project funded by World Bank that came up with an elaborate framework to ensure the continuity of basic education- (Environmental and Social Commitment Plan (ESCP) - Stakeholders Engagement Plan (SEP) MOE – P174058 (2020), and the Kenya basic Education Covid-19 Emergency Response Plan - as the heat of Covid-19 pandemic continued to be felt. Notably other than the 15<sup>th</sup> of March 2020 Presidential Directive on the suspension of learning in all education institutions with immediate effect that Universities and Tertiary Institutions were to close by Friday, 20<sup>th</sup> March 2020 there were no other mentions of the same regarding universities. This notwithstanding the fourth goal of the Sustainable Development Goals (SDGs) was overlooked. Ensure equitable quality education and promote lifelong learning opportunities for all (UNESCO, 2020).

Every child has a right to education. Although universities in Kenya are autonomous, the researchers opine that during the peak of Covid -19 pandemic the institutions were left to chat the way forward on their own. Hence, it was necessary to ask some provocative questions. Is a university student a child who has a right to education? Were they able to continue with their studies while at home? What challenges did the university student face? What support did the student receive from the University? Did the university student expect government support to continue with their studies while at home?

Just like any other organization, universities were affected by the pandemic. A gap exists in relation to surviving in the midst of a pandemic. Universities continuously struggle due to insufficient budgets, poor infrastructure, lack of resources and facilities, and personnel problems. Although universities have structures for taking care of their teaching, learning and research, little if not minimal effort has been put into disaster, risk management, and business continuity plans. A lack of strategy for continuity in case of disasters in some universities in Kenya could be due to complications and complexities that may arise because of poor infrastructure, inadequate resources, lack of strategies, and fear of the unknown. Consequently, deficiency and absence of this can have a direct negative impact on universities' performance.

## II. METHODOLOGY

This study was informed by the pragmatic research paradigm because Covid-19 disrupted the conventional teaching and learning practices where the new digital approaches and the current status of education has not been fully explored. University students across public and private universities in Kenya formed the target population. The study adopted the mixed research approach. A survey design was used; simple random sampling method was applied to select a total of 1110 students, that is, 15 from each of the 74 universities. Singh and Nath (2007) state that the major purpose of the survey method in research is to tell 'what is', the researcher was interested in using the method to collect information on 'what exists', 'what is wanted', and 'how to get there'. It involves a random selection of research subjects, getting their views, and generalizing the findings to the entire population.

Quantitative and qualitative data were collected using a semi-structured online questionnaire. The questionnaire contained both open and closed ended questions. Open ended questions were used to collect qualitative data to assist in explanations. The online questionnaire was developed using the google forms application where instant data from respondents was analysed. In addition, secondary data was obtained from published books, newspapers, magazines, journal articles, online portals, and web resources to complement the primary data. Data were analyzed descriptively and via content analysis.

The objectives of the study were shared with the respondents via a phone call while assuring them of the confidentiality of the data collected. The findings have been presented descriptively using narratives, figures, and percentages.

### Ethical Considerations

The study received ethics approval from The Kenyan Quality Assurance Executive peer review committee. *See attached letter of invitation in the list of appendices.* Informed consent was collected prior to the survey. *See attached questionnaire in the list of appendices.* All data were anonymized by using a number system.

## III. RESULTS

The study targeted 1110 students (15 from each university). The findings yielded 91.9% response.

### Demographic Characteristics

#### Gender

The gender distribution of the findings shows that (63.5%) of the respondents were male while (36.5%) were female.

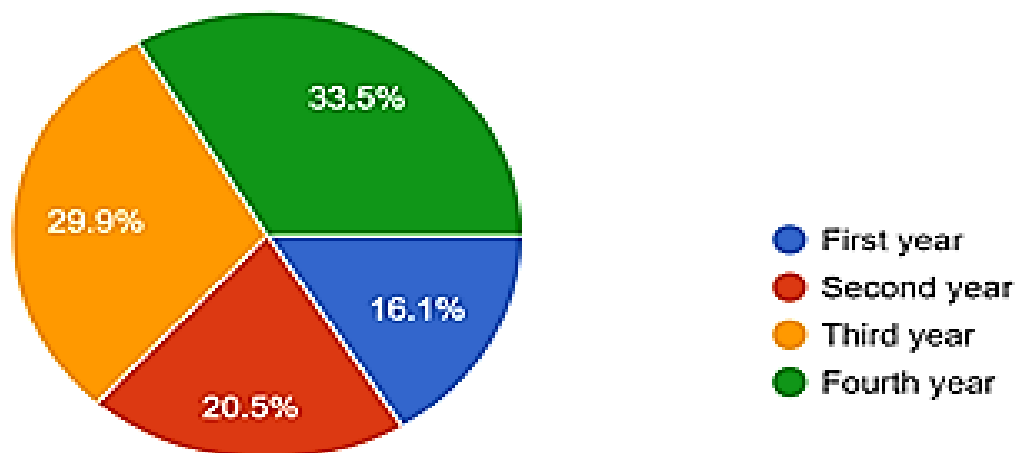
#### Institution classification

Kenya has both private and public universities; the findings indicate that (65.9%) of the respondents were from public universities while (34.1%) were from private universities.

#### Student year and level of study

There was an equal distribution of respondents in terms of year of study as shown in Figure 1. A vast majority (90.2%) of respondents were at undergraduate level while a very small number (9.8%) were at postgraduate level of study.

**Figure 1:**  
*Year of Study*



### Status of Teaching and Learning during Covid-19 Pandemic

#### Online teaching and learning

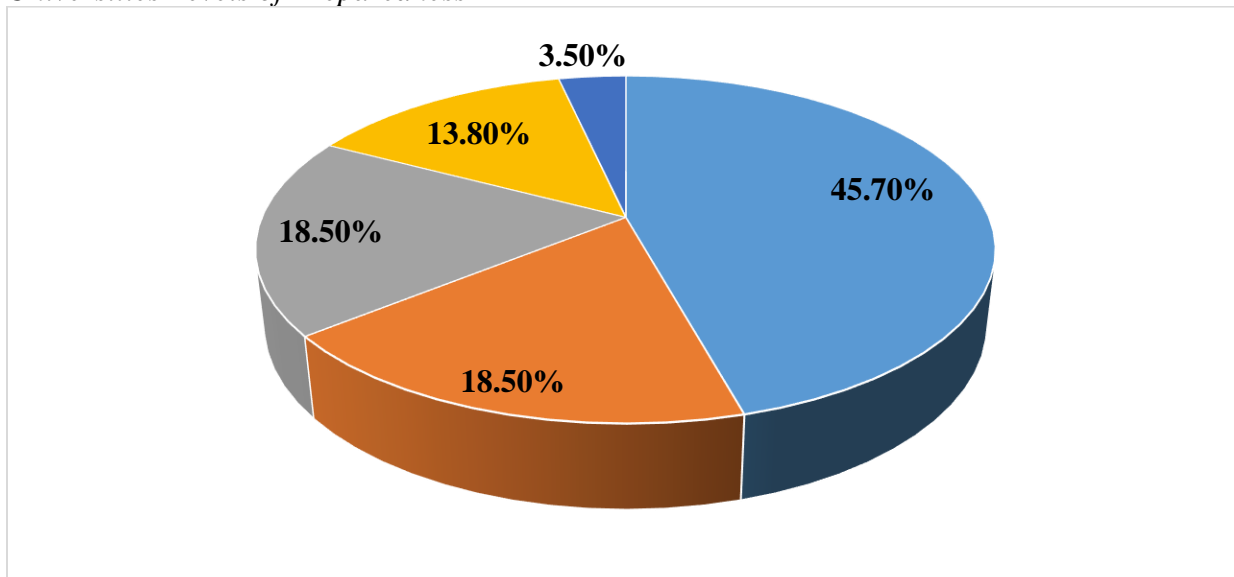
Kenyans are vulnerable to Covid-19 because of weak health care and food supply systems, high poverty rates, low personal protective equipment supplies and effectiveness (Brosseau & Sietsema, 2022), and reliance on imported equipment and supply (Otiso, 2020). A total of (35.7%) of respondents indicated that they continued online with teaching and learning activities after the

government suspended face to face learning while a good number (64.3%) stated that they did not continue with teaching and learning activities. This is an indication that in these universities there was no business continuity plans or fallback platforms to support teaching and learning activities. It is very clear that the unprecedented global pandemic affected every aspect of people's life (United Nations Sustainable Development Group, 2020), and university students' life was not left behind.

***Level of preparedness for online teaching and learning***

Respondents were required to rate universities' level of preparedness to deal with the effects of Covid-19 on teaching and learning activities. The findings reveal that a good number of respondents rated universities to be very low prepared at (45.7%). An equal number rated universities' level of preparedness as low and medium (18.5%) in other words poorly prepared. A small number rated universities levels of preparedness as high (13.8%) and very high (3.5%). These could be the group of universities that were able to quickly adjust to online teaching and learning and were also able to conduct examinations.

**Figure 2:**  
*Universities Levels of Preparedness*



**Continuity of Teaching and Learning in Universities**

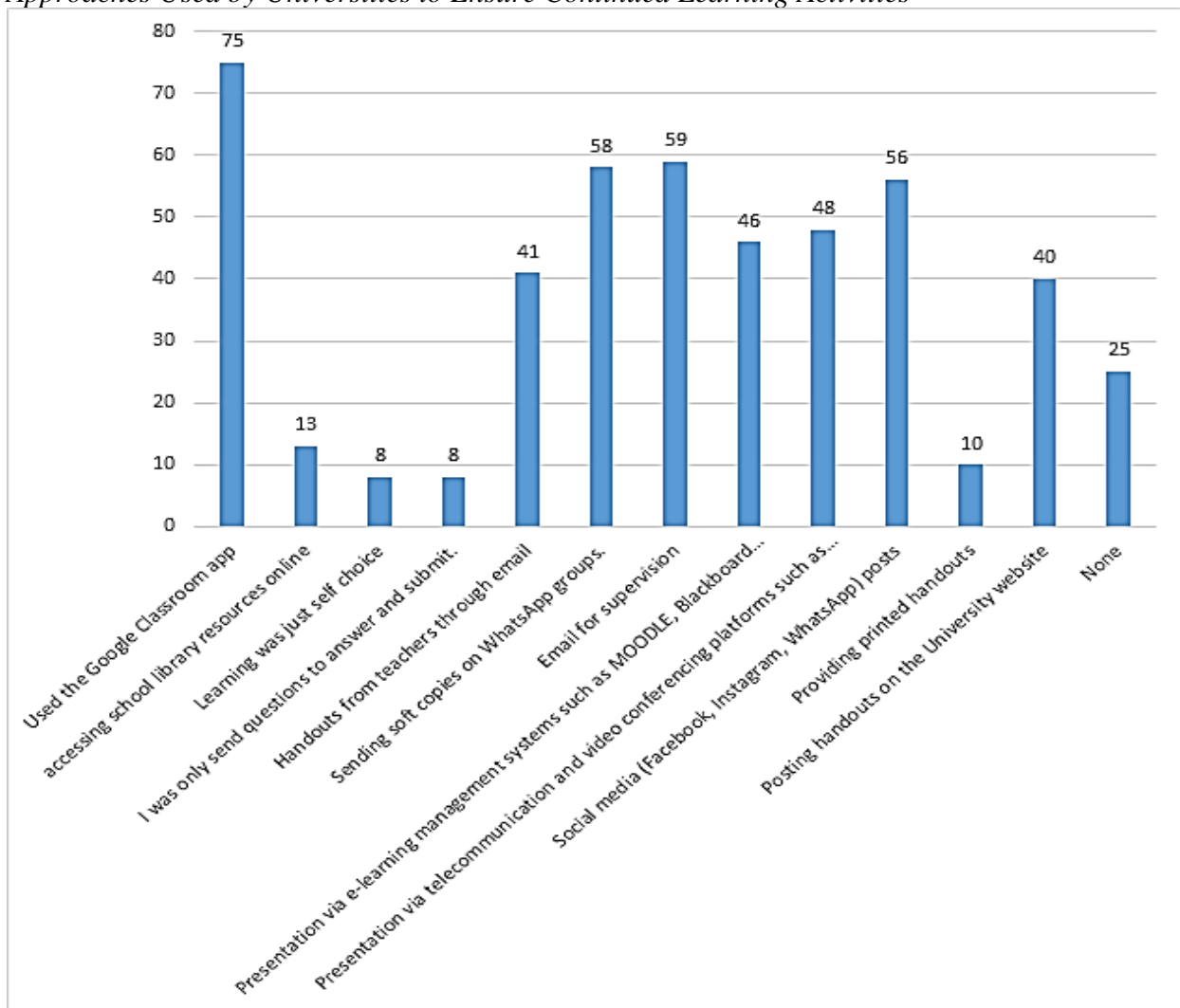
***Approaches used by universities to ensure continuation of teaching and learning***

It was interesting to learn that universities that continued with teaching and learning activities embraced a variety of ways as shown in Figure 3. Notably universities were able to roll online learning activities whereby there was integration of the various applications and platforms. The findings reveal that use of social media (Facebook, Instagram, WhatsApp) posts (76.1%) and the Google Classroom Application (75.6%) was largely used. Handouts from lecturers using emails (41.5%), sending of soft copies of lecture notes using WhatsApp groups (58.7%), use of emails for supervision (59.6%), presentation via teleconferencing and video conferencing platforms such as zoom, skype, Microsoft teams, google meet, WebEx (26.2%), presentation via e-learning management systems such as MOODLE, Blackboard or Canvas (34.9%), and posting handouts on the University website (20.3%) were almost at the same level of selection as other ways used by

universities to ensure teaching and learning activities continued. Providing printed handouts (6.1%) was selected by very few respondents; this could be associated with the requirement of keeping social or physical distance. Accessing library resources attracted only thirteen (13.2%) and the concept of sending questions to be answered and submitted by students as a way to engagement attracted eight (8.5%) responses.

Key observation was the revelation that some universities did not embrace any approach to ensure continuation of teaching and learning activities (60.3%). In addition, the use of social media platforms and google classroom took the lead. However, it is imperative to note that google classroom acted as a content bank where learning resources were posted with little synchronous interaction. On the other hand, there was information overload through social media without structures methodology. These were not the best platforms for quality teaching and learning since they largely supported asynchronous mode of interaction.

**Figure 3:**  
*Approaches Used by Universities to Ensure Continued Learning Activities*

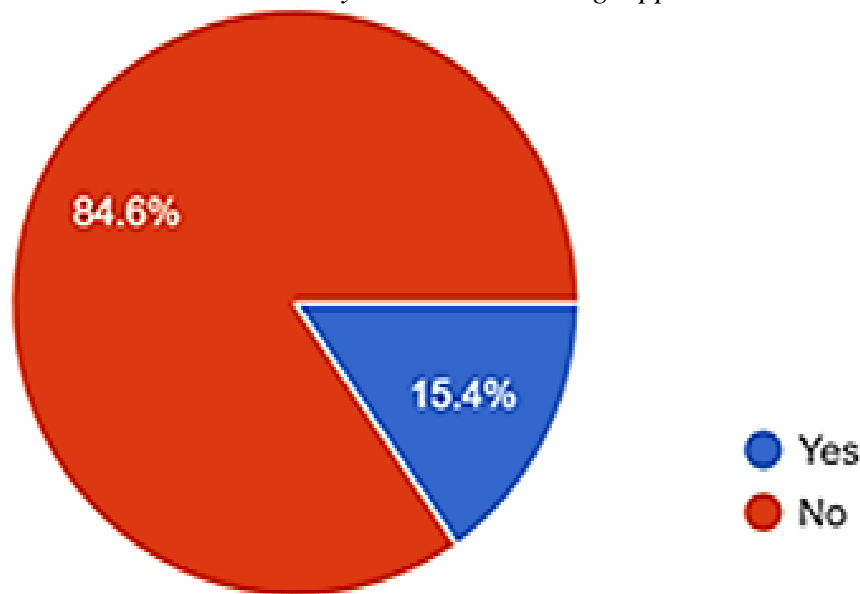


### ***Accessibility of the Learning opportunities to Students***

Although universities embraced a variety of approaches to ensure continuation of teaching and learning activities. The results revealed that only (15.4%) in a class accessed the online opportunities against a vast majority of (84.6%) who did not as indicate in Figure 4.

The findings corroborate with what was revealed that universities did not embrace online teaching and learning activities. This could be associated with the fact that this question was geared towards establishing whether students in a particular class were all able to access the opportunities provided by the university.

**Figure 4:**  
*Students Class Accessibility to Online Learning Opportunities*



### ***Support received from the university to access online learning opportunities***

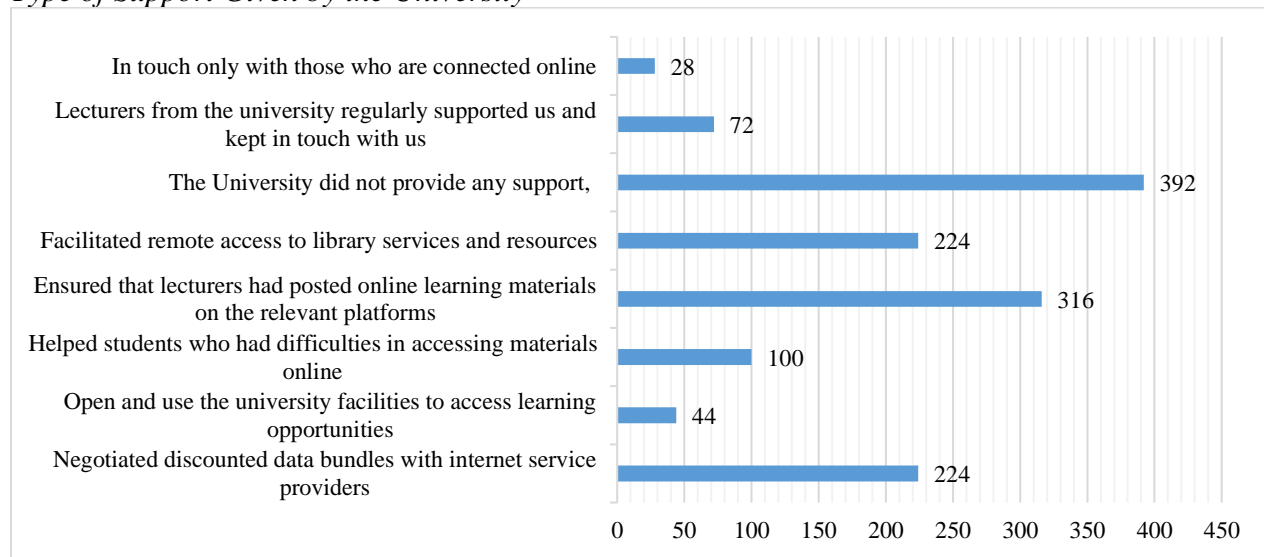
Universities were expected to support their students to access online learning opportunities. A (61.8%) of the respondents indicated that they did not receive support from their university while (38.2%) of the respondents' universities provided support to students. This further explains the findings in figure 3 that revealed a good number of students were not able to access the learning opportunities. The reasons given by respondents on the type of support that they expected is food for thought. Majority of the respondents expected that universities facilitate students with bundles to be able to access online learning opportunities. Universities were not prepared to transform face to face to online teaching and learning as a result of the Covid-19 pandemic. Therefore, the expectation of the respondents may have been overboard. However, some universities were able to operate within their budgets to ensure that they gave the necessary support to students.

Although universities provided a number of support services for students to access online learning opportunities it was observed that according to (392) respondents some universities did not provide any support and for (28) respondents' universities were in touch only with students who were connected online.



Some of the key things done by universities to support continuation of teaching and learning activities were: negotiated discounted data bundles with internet providers (224), a few were open and allowed students to use the facilities to access online learning opportunities (44), helped students who had difficulties in accessing material online (100), ensured that lecturers posted online learning materials on relevant platforms (316), facilitated remote access to library services and resources (E-library) (224) and that lecturer's kept in touch with students regularly and updated them (72). While providing support it is good to note that universities were also trying to respond to some of the challenges that were faced by students such as lack of data bundles and lack of awareness of online opportunities.

**Figure 5:**  
*Type of Support Given by the University*



### ***Challenges of accessing online learning opportunities***

The Covid-19 pandemic took the world by surprise, there was need for the study to establish the challenges faced by students in accessing online learning opportunities. Respondents selected a number of reasons why a majority of students were not able to access the online learning opportunities provided by the university. The findings reveal that the challenges were caused by both internal and external factors. Remote geographical locations of families (712) attracted many respondents, this may be due to the poor network infrastructure in the country and is also linked to poor internet connectivity (644). Lack of data bundles (676), lack of smartphone and laptops (532) and busy schedules at home with family chores (324) could be associated with poverty. A small number of students were displaced by floods (32) and some were sick (28) thus could not continue with their studies online. These were factors beyond the student's control. Many families in Africa and in Kenya live below the poverty line, they feed from hand to mouth.

Other challenges were directly linked to individual universities. A few students indicated that only supervision was done, no classes (56). They may have been postgraduate students who continued with their research work. It was revealed that some universities did not create awareness to students (200) on the available opportunities. It was also surprising to note that some universities did not provide any online learning opportunities (308).



### ***Post Covid-19 support***

As the world continues to battle with the pandemic while embracing the “new normal”. It is important to think of post Covid-19 support. The findings reveal that there was support from the universities to help students to adapt to post Covid-19 pandemic student life. A majority of the students (60%) indicated that universities had to adjust the academic calendar to recover the lost time, give students ample time to be able to clear the fees balance (37.6%), consider reducing the amount of fee paid since the University Services were not fully utilized during the pandemic (36.1%), encourage students and all university staff to keep social distance, wear masks, wash hands to prevent infections from recurring (32.9%), build a robust internet infrastructure that shall ensure blended teaching and learning to adapt to the new reality of life (29%), have face to face interactive lecture sessions with students on some of the practical related content covered online (22.4%), schedule all face to face lectures to a maximum of one hour until the world is declared Covid-19 pandemic free (16.5%) and reduce class sizes to avoid congestion during lectures (17.6%), invest in supporting platforms for research and innovation (9.4%) to be able provide solutions to societal problems. It was interesting to note that very few respondents (5.5%) indicated that they needed counseling. This could be viewed in two ways; that a vast majority of respondents may have benefited from the counseling services provided during the pandemic and therefore did not require after the pandemic. This could also mean that as students counseling services are not their priority.

### **How Covid-19 affected Students’ Academic Life**

#### ***Covid-19 and university students’ life***

Covid-19 pandemic affected university students’ lives in a number of ways as highlighted:

*Academically;* Students were not able to understand some assignments given due to lack of proper clarification; experienced delay in completion of syllabus, postponement of examination, a delay in the program of study and delay graduation; were uncertain of going for industrial attachment, field practice, teaching practice, clinical placement, field trips and partaking field courses; some students stopped learning for good. Some students lost content that had been covered due to long breaks and developed low morale in studying; restricted from accessing the university where there is a conducive environment for studies limited students access to many resourceful materials; encountered difficulties in participating in e-learning, pressure to finish assignments and reading for exams; experienced reluctant lecturers, fewer interactions with the lecturers, while some subject areas were not adequately covered online; lacked one on one guidance from supervisors; some indicated that learning at home was very difficult such that even doing assignments was very hard due to lack of bundles, laptops and smartphones; some students use the pandemic as a weapon to avoid learning in the name of there is lack of electricity in their areas and poor network connection, which everyone who is serious can fight for and overcome all those challenges. This affected those who were very ready to learn despite the challenge; effective classroom learning and group discussions stopped; and lack of internship opportunities due to the closure of companies. The findings are in line with Tarkar (2020) that the closure of schools, colleges and universities interrupted the learning of students and disrupted the internal assessment and public assessments for qualifications.

*Financially*; students incurred extra cost on online classes since there was no free campus Wi-Fi - increase in cost of study; were forced to work to help out their families financially, - “some of us are busy helping our parents”, from other regions extended in Kenya longer than planned - increases expenditure, lacked food (for those who were unable to travel home); struggled to pay rent (this made the students to look for jobs); were unable to pay tuition fees due to loss of jobs to parents and financial constraints from the sponsors.

*Socially*; students united with their family more; had restricted movement, idleness at home, and uncertainties; lacked interaction among classmates and lecturers as confirmed by Nampijja et al. (2022), that the lack of physical interaction between learners and educators was a new Covid 19 challenge to provide solutions to a problem.

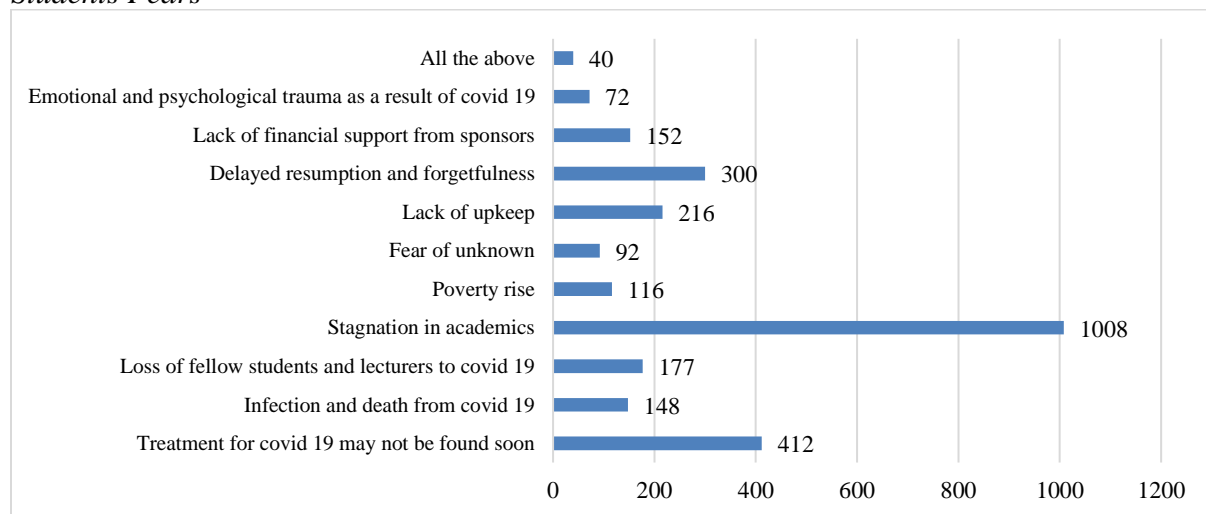
*Spiritually*; Most of the respondents indicated that they had time to reflect on God’s doing as reported “COVID-19 has taught me that God's plans are not man’s plans so the knowledge I get I should use it positively.”

*Psychologically*; there was fear, panic - “Semester was called off”; a lot of anxiety and uncertainties - “school fees remained the same, stagnation and late graduations”; a lot of family conflict at home. “Home environment not conducive for learning due to increased domestic violence”; lack of interest in learning due to lack of guidance; low self-motivation to reading, scared for the future and disruption to normal life; no exposure to various opportunities for life, just staying at home thus bored; increased house chores that have reduced the rate of learning at home; unfair distribution of learning materials - this made many students lag behind and; lack of one to one talk with lecturers concerning studies.

**University student fears**

The fear caused by the Covid-19 pandemic across the globe cannot be overemphasized. University students’ fears cut across all aspects of life. The findings show that a vast majority (90.8%) of the student respondents had fear on their academic progress.

**Figure 6:**  
*Students Fears*



There is no doubt that the Covid-19 pandemic disrupted teaching and learning. One of the measures announced by many countries was suspension of the face-to-face teaching and learning activities thus the closure of learning institutions hence stagnation of academic progress for a vast majority of students.

### **Kenya Government Support to University Students during the Covid-19 Pandemic**

It is evident from the findings that for a vast majority (90.2%) of the respondents the Kenya Government did not provide support to university students to continue with their studies during the pandemic. A small number (9.8%) indicated that they received some support. It was however interesting to note that the support mentioned by the small group of respondents is the Higher Education Loans Board (HELB) loan that students apply for in normal circumstances and has nothing to do with Covid-19 pandemic.

Education is not a privilege, it is a human right (Right to Education, 2022). It was paramount to get the students' view on whether the Kenya Government viewed them as young persons who have a right to education. This was triggered by the fact that the Government put a lot of resources on pre-primary, primary and secondary schools to an extent of developing online curricula through the Kenya Institute of Curriculum Development (KICD). No content was put in place for university students.

A good number of (59%) of the respondents disagreed that the government viewed them as persons with a right to education while (41%) stated agreed. Those who said yes gave the following reasons:

- i. Provision of HELB loan and government sponsorship;
- ii. By suspending face to face learning and closure of learning institutions it means the government is focused on the safety of all learners. When learners are safe they are sure of being healthy and can still resume their studies when strong despite the challenges experienced;
- iii. By protecting learners from the risk of getting Covid-19 and by insisting that they stay safe at home, wear masks and maintain social distance;
- iv. The government encouraged students in universities to stand and help the fight against Covid-19; and
- v. The government continues to put up measures to contain the spread of the disease.

Those who said No stated that:

- i. The government said very little about University education;
- ii. The government has not provided the required teaching and learning support to universities.
- iii. The government has not provided any practical teaching and ways of learning to university students;
- iv. The government only concentrated on pre-primary, primary and secondary school learners;
- v. The support given to the youths during this pandemic was not felt across the country;
- vi. They did not provide any alternative once schools were closed especially for marginalized communities;
- vii. The government has not provided adequate technological infrastructure (internet, electricity, devices,) *"I have been on blackout for over a month now because of a blown transformer. KPLC, Elgeyo Marakwet county, Iten branch, does not seem to even bother fixing it. So, life*

*has been hard because I have to charge my devices in order to use them. That by far has been my biggest challenge.*

### **Lessons Learned from the Covid-19 Pandemic**

Respondents were also keen to give some lessons learned from the pandemic. It was reported by (52.2%) that flexibility and adaptability is needed to be able to respond to change. Some (49.8%) found it appropriate to be solution providers to society by being innovative and creative. Another (48.6%) indicated that every minute counts for a student – there is no time to waste. Some (29.8%) agreed that it is prudent to use what is available to survive, while (24.7%) noted that collaboration and partnership with fellow students and wider academia for continued learning was displayed. Additionally, (16.5%) observed that their actions can affect others positively or negatively and they must be careful of each action taken at every moment. Another (12.5%) agreed that it was important to have a part-time job for financial continuity in hard times. It was interesting to note that (8.6%) learnt not only to depend on what is taught in the classroom but also to read additional books and (3.1%) noted that as they get older, they should remember that parents are also getting older, and they have more responsibility over them.

### **DISCUSSION**

COVID 19 pandemic exposed how the E-Learning infrastructure in Kenya was at the time. In addition, there was clear evidence that disaster and risk management plans as well as business continuity structures were inadequate. A total of (64.3%) stated that they did not continue with teaching and learning activities. This is an indication that in these universities there were no fallback platforms or plans to support teaching and learning after the pandemic struck. Additionally, the (35.7%) institutions which continued with teaching and learning adopted diverse approaches during the pandemic. This adaptability is crucial, as it allows institutions to cater to different learning needs. Some of them, some universities used video and teleconferencing platforms, learning management systems, university websites to engage students remotely. Some platforms acting like databases for depositing learning resources hence less interaction and engagement which was affecting learning. This is supported by Ndung'u and Mutegi (2021) who indicated that some Universities in Kenya adapted online learning through recorded lectures and online platforms such as video conferencing, webinars, virtual meetings, zoom, WhatsApp, Google drive, Telegram and Twitter while others postponed learning and teaching due to lack of ICT tools and infrastructure for both lecturers and students. All these are indicators of some level of preparedness which varied from one university to another and affected the quality of online teaching and learning experiences at the time. To be safe, in future, institutions of Higher Education must establish effective and sustainable e-learning back up infrastructure as a disaster and risk management measure. These plans must be effectively implemented to deal with teaching and learning disruptions associated with natural disasters, and pandemics in future. This is supported by Rasiah, Kaur, and Guptan (2020) who suggest that policymakers in Higher Education need to provide swift and clear instructions that will ensure educational disruptions are kept at a minimum. Putri, Purwanto, Pramono, Asbari, Wijayanti and Hyun (2020) further reinforce the agenda by indicating that HEIs need to invest in better business continuity strategies to ensure that “no one is left behind” in ensuring higher education is available to all. Strong and effective risk management processes and business continuity plans that are well developed shall counter such

crisis in future. Once this is done all the other areas highlighted from the study as challenges will be solved.

Findings further reveal that the challenges were caused by both internal and external factors. These were factors beyond the student's control. Many families in Africa and in Kenya live below the poverty line, they feed from hand to mouth. Other challenges were directly linked to individual universities. Availability of learning opportunities to students, regardless of their circumstances, is essential for promoting equity in education. Universities unlikely did not provide support such as access to internet connectivity, devices, assistive technologies which was highly needed. However, support from the university for accessing online learning was provided in terms of providing access the learning management systems, uploading content, some did a bit of sensitization sessions on using online platforms, guidance on effective study strategies in a virtual environment, discounted data bundles, and counseling services to address any challenges students faced. Despite efforts to make learning accessible, students certainly encountered challenges during the transition to online education. Common difficulties included unreliable internet connections, lack of access to suitable devices, distractions in home environments, difficulties in adjusting to remote learning formats, and mental health challenges arising from isolation. This is also confirmed by Aristovnik, Keržič, Ravšelj, Tomaževič, and Umek (2020) who indicated that students from undeveloped, remote, and rural areas had problems with poor Internet connectivity or even a lack of electricity. There is no doubt that the COVID-19 pandemic tested academic systems around the world and that universities had to rapidly transform traditional forms of education to exclusive online education (Abelskamp and Santamarinam, 2020). Post-COVID-19 support was provided to students as they came back to in-person learning or navigate hybrid learning models. This support came in variety of ways such as ongoing access to online resources, technical assistance, mental health services, flexibility in course delivery options, and initiatives to promote a sense of community and belonging on campus.

## Conclusion

Besides fatalities, adverse economic effects have been observed due to the Covid-19 pandemic. It is evident that university students' lives were adversely affected by the Covid 19 pandemic. Therefore, universities have no choice but to offer continuous education even in the midst of a pandemic. This is a lesson learned, the Kenyan government should have adequate infrastructural support for its students in case the same recur the same way or in a different form.

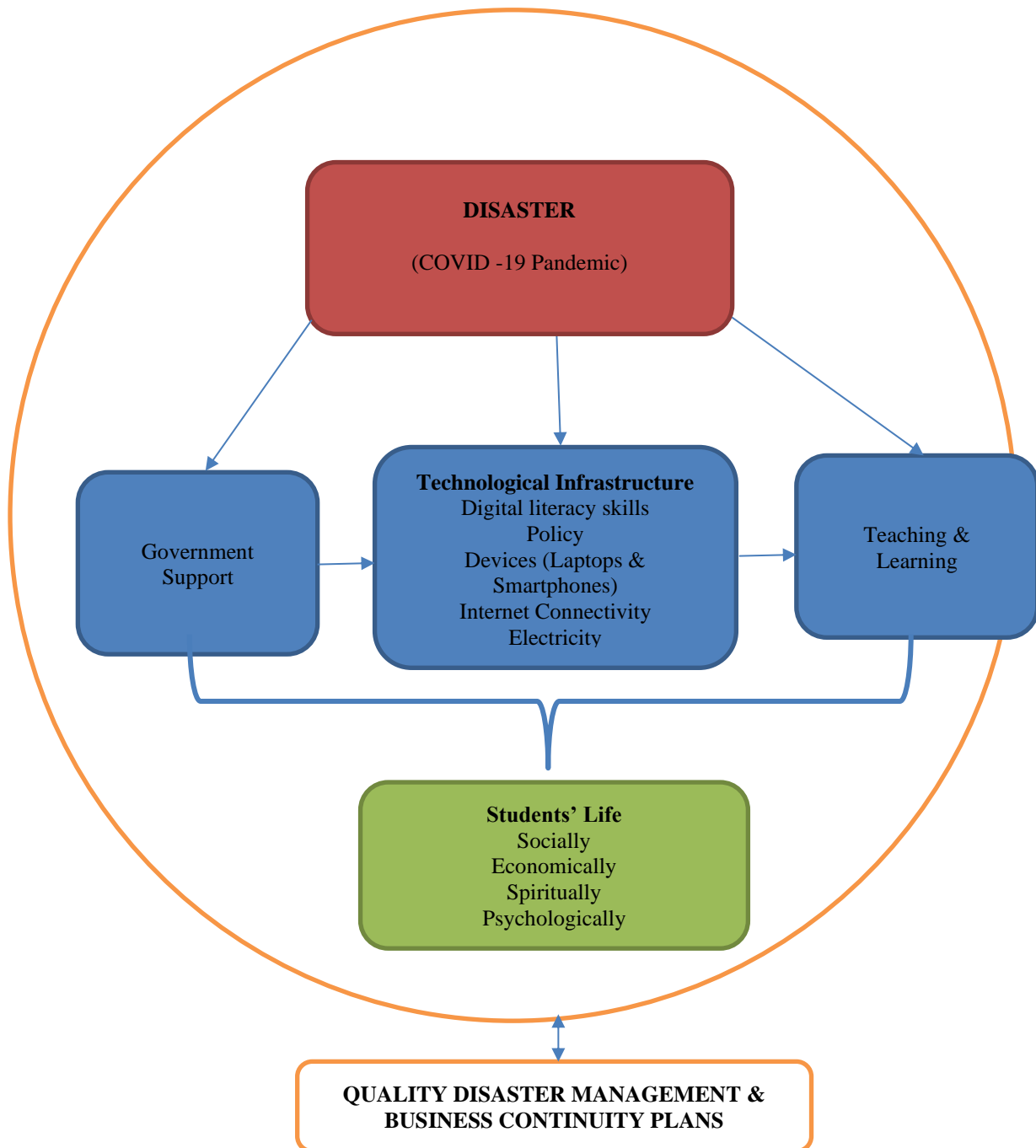
## Recommendations

Both the government and universities have a role in ensuring effective delivery of quality online teaching and learning programmes which is now needed more than ever. They bear the responsibility of providing educational resources and services to its learners whether on campus or off campus. To deliver this mandate,

- i. Clark (2016) opined a pandemic is a serial killer that can have devastating consequences on humans and the global economy. It is therefore important that Institutions of higher learning reposition themselves strategically and re-engineer their processes.
- ii. In terms of the e-learning infrastructure in universities in Kenya, it was found out that the infrastructure in not adequate to support the online learning programmes. Therefore, budgets should be provided to support the implementation of these programmes. With adequate

- finances, resources both in terms of hardware and personnel shall be available to support these institutions to achieve their mission of teaching, learning and research.
- iii. Universities must strive to develop appropriate digital skills of staff and students and adopt the right attitudes with online teaching and learning.
- iv. Quality Disaster Management and Business continuity plans and open, distance and e-learning policies should be strategically drawn to support the e-learning component of education and the transformation in the current knowledge society for sustainable development.

**Figure 7:**  
*A Quality Disaster Management & Business Continuity Framework for HLIs QDMBCP framework, 2022*



Subsequently, universities need to develop a Quality Disaster Management and Business continuity plans (QDMBCP) as proposed by the authors. The framework highlights major components that are required in higher learning institutions for them to overcome and be ready to counter disasters when they occur. The government with its adequate support together with the technological infrastructure will support teaching and learning which will make students comfortable and ready to continue with the business as usual.

**Disclosure Statement**

No potential conflict of Interest was reported by the Authors.



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