The Impact of Covid-19 Pandemic on The Implementation of The University Curriculum: a Case of Public Universities in South Eastern Kenya

Kimiti Richard Peter
Machakos University

Abstract

The outbreak of the Covid-19 pandemic was the least expected catastrophe globally. The first case of Covid-19 infection was reported on March 2020. Due to the panic of the Covid-19its' effects on human life, the Government of Kenya issued directives on how to combat the spread of the disease which, lead to the indefinite closure of institutions of learning . Including Public public universities. were not an exception. Since then, universities mounted diverse strategies to ensure that curriculum implementation was not disrupted. However, there have been concerns by stakeholders about the quality of the Universities' curriculum implementation activities during of the Covid-19 period since March 2020. The purpose of this study was therefore to investigate the impact of covid-19 pandemic on the implementation of the university curriculum. This study was guided by two research objectives; to examine the teaching strategies used for curriculum implementation in Kenyan universities and to establish the quality of the curriculum implementation in Kenyan universities since March, 2020. This study adopted the survey research design. It was carried out in two (2) public universities in Machakos and Kitui counties, Kenya. The study used both simple random and purposive sampling procedures. The sample of study was 80 students, 20 lecturers, 10 Chairmen of Departments, 2 directors of ICT, 2 directors of Quality Assurance and 6 Deans of Schools yielding a total of 120 respondents. Data was collected using two research instruments; questionnaires and interview schedules. The findings of the study revealed that curriculum implementation was done using several teaching strategies; Online online and blended teaching strategies (pure online teaching, Face to Face, synchronized teaching and digitalization of units). The platforms used for teaching were zoom, google meet and knet. In addition, the findings of the study further showed that the quality of the curriculum implementation was significantly compromised. This was attributed to poor network, limited technical skills on use of online platforms by lecturers and systemic failures. It was therefore concluded that public universities have put innovative teaching strategies to mitigate the challenges brought by the Covid-19 pandemic, but the quality of curriculum implementation was poor. The study recommends that universities should invest in adequate ICT infrastructural facilities that enhance e-learning. The results of the study will promote the quality of blended teaching and learning in all universities in Kenya

Key words: *curriculum implementation, e-learning, teaching and quality.*

INTRODUCTION

Background to the study

The emergency of the Covid-19 pandemic was first reported in China in December 2019. The disastrous effects of the pandemic brought about disorganization of both economic and social activities. In Kenya, first case of Covid-19 infection was reported on the month of March 2020. Due to the panic of its' effects on human life and experiences reported in European countries and in the United states of America, the Government of Kenya issued instructions to of fighting the

spread of the disease. The indefinite closure of all institutions of learning was put in place. The institutions of higher learning were not spared and particularly the public universities.

Later, after the first wave of the pandemic was brought into control in Kenya, most of the tertiary institutions of learning among them public universities were opened and went back to face to face teaching and learning. However, this was immediately terminated after a second wave of the pandemic struck in the month of October 2020. In order to ensure that teaching and learning was not adversely affected, the Cabinet Secretary for the Ministry of Education directed all institutions of higher learning to mount virtual learning programs. This lead to the gradual transitioning from face to face; remote learning; and blended and blended teaching and learning modes. On the other hand, some universities with small populations continued with face to face physical teaching and learning activities, although physical distancing requirements and other health safeguards made it challenging to return to full-time in-person instruction which put the life of students at risk. Furthermore, the uncertainty of the mutation of the corona virus required universities to be ready to switch between in-person and remote learning to ensure teaching and learning is not further disrupted.

As schools have been closed to cope with the global pandemic, students, parents and educators around the globe have felt the unexpected ripple effect of the COVID-19 pandemic. While governments, frontline workers and health officials are doing their best slowing down the outbreak, education systems are trying to continue imparting quality education for all during these difficult times. Many students at home/living space have undergone psychological and emotional distress and have been unable to engage productively. The best practices for online homeschooling are yet to be explored (Petrie, 2020). The use of suitable and relevant pedagogy for online education may depend on the expertise and exposure to information and communications technology (ICT) for both educators and the learners. Some of the online platforms used so far include unified communication and collaboration platforms such as Microsoft Teams, Google Classroom, Canvas and Blackboard, which allow the teachers to create educational courses, training and skill development programmes (Petrie, 2020). They include options of workplace chat, video meeting and file storage that keep classes organized and easy to work. They usually support the sharing of a variety of content like Word, PDF, Excel file, audio, videos and many more. These also allow the tracking of student learning and assessment by using quizzes and the rubric-based assessment of submitted assignments.

The flipped classroom is a simple strategy for providing learning resources such as articles, pre-recorded videos and YouTube links before the class. The online classroom time is then used to deepen understanding through discussion with faculty and peers (Doucet et al., 2020). This is a very effective way of encouraging skills such as problem-solving, critical thinking and self-directed learning. The virtual classroom platforms like videoconferencing (Google Hangouts Meet, Zoom, Slack, Cisco, WebEx) and customizable cloud-based learning management platforms such as Elias, Moodle, BigBlueButton and Skype are increasingly being used.

Challenges in Teaching and Learning With the availability of a sea of platforms and online educational tools, the users - both educators and learners -face frequent hiccups while using it or referring to Higher Education for the Future these tools. Some of the challenges identified and highlighted by many researchers are summarized as follows: Broadly identified challenges with e-learning are accessibility, affordability, flexibility, learning pedagogy, life-long learning and educational policy (Murgatrotd, 2020). Many countries have substantial issues with a reliable

Internet connection and access to digital devices. While, in many developing countries, the economically backward children are unable to afford online learning devices, the online education poses a risk of exposure to increased screen time for the learner. Therefore, it has become essential for students to engage in offline activities and self-exploratory learning. Lack of parental guidance, especially for young learners, is another challenge, as both parents are working. There are practical issues around physical work spaces conducive to different ways of learning. The innately motivated learners are relatively unaffected in their learning as they need minimum supervision and guidance, while the vulnerable group consisting of students who are weak in learning face difficulties. Some academically competent learners from economically disadvantaged background are unable to access and afford online learning.

The level of academic performance of the students is likely to drop for the classes held for both year-end examination and internal examination due to reduced contact hour for learners and lack of consultation with teachers when facing difficulties in learning/understanding (Sintema, 2020). Student assessments are carried out online, with a lot of trial and error, uncertainty and confusion among the teachers, students and parents. The approach adopted to conduct online examination varies as per the convenience and expertise among the educators and the compatibility of the learners. Appropriate measures to check plagiarism is yet to be put in place in many schools and institutions mainly due to the large number of student population. The lockdown of schools and colleges has not only affected internal assessments and examinations for the main public qualifications like General Certificate of Secondary Educations (GCSE), but A levels have also been canceled for the entire cohort in the UK. Depending on the duration of the lockdown, postponement or cancellation of the entire examination assessment might be a grim possibility (United Nations, 2020). Various state-level board exams, recruitment exams, university-level exams and entrance exams have been postponed across India due to the COVID-19 outbreak and national lockdown. Various entrance examinations (such as BITSAT 2020, NATA 2020, CLAT 2020, MAT 2020, ATMA 2020) have also been postponed/rescheduled. The education system in schools, colleges and universities across the country has been severely impacted due to the ongoing situation. It is also possible that some students' careers might benefit from the interruptions. For example, in Norway, it has been decided that all 10th grade students will be awarded a high-school degree. A study carried out in France shows that the 1968 abandoning of the normal examination procedures in France, following the student riots, led to positive long-term labour market consequences for the affected cohort (Maurin & McNally, 2008). Pokhrel and Chhetri School time also raises social skills and awareness besides being fun for the children. There are economic, social and psychological repercussions on the life of students while they are away from the normal schedule of schools. Many of these students have now taken online classes, spending additional time on virtual platforms, which have left children vulnerable to online exploitation. Increased and unstructured time spent on online learning has exposed children to potentially harmful and violent content as well as greater risk of cyber bullying. School closures and strict containment measures mean more families have been relying on technology and digital solutions to keep children engaged in learning, entertained and connected to the outside world, but not all children have the necessary knowledge, skills and resources to keep themselves safe online.

In the case of online learning in Bhutan, majority of the learners are from rural villages where parents are mostly illiterate farmers. Students are engaged in assisting parents in farm activities such as agriculture, tending to cattle and household chores. Some students even requested to

postpone exam time towards the afternoon since they had to work on the fields during morning hours. Some students expressed that they had to attend to their ailing parents/grandparents/family members and take them to hospitals. By evening, when they are back home, it becomes difficult for them to keep abreast with the lessons. Parents whose children are in lower grades feel that it would be better to let the children repeat the next academic year. Majority of students do not have access to smartphones or TV at home in addition to poor Internet connectivity. There is no or less income for huge population due to closure of business and offices. The data package (costs) is comparatively high against average income earned, and continuous access to Internet is a costly business for the farming community.

Online face-to-face classes (video) is encouraged by most; however, some students (economically disadvantaged) have expressed that the face-to-face online class consumes more data packages. The teachers are in dilemma as to whom to listen to and which tools to adopt. Some think pre-recorded videos could help; however, this would restrict interactions. It is difficult to design a proper system to fit the learning needs and convenience of all students. As schools have been closed to cope with the global pandemic, students, parents and educators around the globe have felt the unexpected ripple effect of the COVID-19 pandemic. While governments, frontline workers and health officials are doing their best slowing down the outbreak, education systems are trying to continue imparting quality education for all during these difficult times. Many students at home/living space have undergone psychological and emotional distress and have been unable to engage productively. The best practices for online homeschooling are yet to be explored (Petrie, 2020).

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Meet, Zoom, Slack, Cisco, WebEx) and customizable cloud-based learning management platforms such as Elias, Moodle, BigBlueButton and Skype are increasingly being used.

Although many universities have worked round the clock to embrace virtual teaching and learning, research findings have reported a number of challenges. These includes such as the weakness of online teaching infrastructure, the knowledge gap, and in particular lack of technical ICT skills by lecturers to online teaching. In addition,, non-conducive environment for learners at home, equity and academic excellence in terms of higher education also pose influence the success of blended teaching and learning. (Pokhrel& Chhetri, 2021 and Houlden and Veletsianos, 2020). However, despite these challenges, the use of blended learning appears to be among the solutions that may provide sustainable quality teaching and learning at the universities amidst the covid-19 pandemic.

According to Mahyoob (2020), the challenges to accessing online learning among learners and teachers are less because both have experienced the opportunity of interacting with educational technology tools such as mobile-based learning and computer-based learning. In addition, Byun, Sooyeon, & Slavin (2020) noted that the availability of affordable technology globally puts the today's learners in an advantage position to learn using ICT. The interactions of today's' learners with different sorts of technology even in remotest and rural areas enabled enables them to be active recipients of content in the e-Learning platforms (platforms (MohalikMohali & Sahoo, 2020; and 2020) Paul, J.& Jefferson,).

According to UNESCO (2020), creating an effective hybrid-leaning strategy involves an iterative approach with four steps: understand and envision, decide and design, enable and execute, and monitor and adjust. Hybrid/Blended learning can be defined as a learning approach that combines both remote learning and in-person learning to improve student experience and ensure learning continuity. It is of particular relevance during school partial reopening and in preparation for potential virus resurgence.

Purpose and objectives of the Study

The purpose of this study was to investigate the impact of covid-19 pandemic on the implementation of the university curriculum. This study was guided by two research objectives to; examine the teaching strategies used for curriculum implementation in Kenyan Public universities and establish the quality of the curriculum implementation in Kenyan Public universities since March 2020.

METHODOLOGY

This study adopted the survey research design. The design was purposively selected due to its flexibility and suitability during restrictions in the covid-19 pandemic (Kombo and Tromp, 2006). It was carried out in two (2) public universities in Machakos and Kitui counties, Kenya. The sample of study was 80 students, 20 lecturers, 10 Chairmen of Departments, 2 directors of ICT, 2 directors of Quality Assurance and 6 Deans of Schools yielding a total of 120 respondents.

Location of the Study

This study was carried out in South Eastern Kenya, which comprises of Machakos, Makueni and Kitui counties. However, the study was carried out only in Machakos and Kitui counties because there is no public university in Makueni County. The counties were selected because they were easily accessible and also hosts both public and private universities in the region.

Research Instruments

The research instruments used in this study were Students' Questionnaire, Lecturers' questionnaire and interview guides for Chairmen of Departments, directors of ICT, directors of Quality Assurance and deans of schools. The validity of the instruments was established through consultation with ICT specialists while the reliability was done through a pilot study in a public university in Nairobi County. The Students' Questionnaire and Lecturers' questionnaire had 0.83 and 0.89 coefficients of reliability which were acceptable since they were based on the threshold of 0.7 according to Gay, Mills, & Airasian (2012).

Sampling Procedures

The sampling techniques used in this study were stratified and simple random sampling methods. Two public universities were purposively sampled, one from Machakos and Kitui counties. Mouton (2002:136) asserts that the key concept in sampling is representativeness of the units in order to provide accurate generalization of the study findings. Kerlinger (2003) suggests that at least 30 per cent of the target population is a good representation of the entire population for research for survey research design. Based on these guidelines, 2 universities were sampled for this study. Simple random sampling technique was used to select a sample of 80 students, 20 lecturers, 10 Chairmen of Departments, 6 Deans of Schools, 2 directors of ICT and 2 directors of Quality Assurance yielding a total of 120 respondents.

Statistical Techniques for Data Analysis

The data collected was processed and analyzed by use of Statistical Package for Social Sciences (SPSS). Both qualitative and quantitative data analysis techniques were used in this study. The results of the study were presented by usage of frequencies, tables, graphs and pie-charts.

RESULTS AND DISCUSSION

Results

The first objective of this study was to examine the teaching strategies used for curriculum implementation in public universities in Kenya. To address this objective, the respondents were asked to highlight the platforms that are used in their universities. The findings in Table 1 shows that three online platform are commonly used in blended teaching and learning in public universities since March 2020; zoom(36.25%), google meet(30%) and Knet(33.75%) as reported by the student respondents. These findings were also supported by lecturer respondents; zoom (25.0%), google meet (35%) and Knet(40%). Similar results were further revealed by the Chairmen of departments as follows; zoom (30.0%), google meet (30.0%) and Knet (40.0%). A critical analysis of the above results shows that Knet was the most popular platform used for

online teaching and learning in the institutions selected for this study. A detailed summary of the findings is shown in table 1.

Table 1: Platforms used for virtual teaching in Public Universities

Response	Students	Lecturers	CODs	Deans
zoom,	29(36.25%)	5(25%)	3(30%)	2(33.3%)
google meet	24(30%)	7(35%)	3(30%)	2(33.3%)
Knet.	27(33.75%)	8(40%)	4(40%)	2(33.3%)

The respondents were also asked to state the teaching strategies used in virtual teaching and learning as a measure to ensure that the curriculum implementation process was not halted by the restrictions put in place to control the spread of the pandemic by the Ministry of Health. Results of this study showed that a variety of teaching strategies were adopted since the outbreak of the Covid-19 pandemic; pure online teaching, face to face, synchronized teaching, digitalization of units and blended teaching and learning. The findings as reported by the lecturer respondents were as follows; pure online teaching (20.00%), Face to Face (15.00%), synchronized teaching (20.00%), digitalization of units (15.00%) and blended teaching and learning (30.00%). This finding was supported by those of the Chairmen of Departments as shown in table 2.

Table 2: Teaching strategies used for curriculum implementation since March 2020

Response	Students	Lecturers	CODs	Deans
Pure online teaching	14(17.50%)	4(20.00%)	2(20.00%)	1(16.67%)
Face to Face	17(21.25%)	3(15.00%)	2(20.00%)	1(16.67%)
Synchronized teaching	16(20.00%)	4(20.00%)	1(10.00%)	1(16.67%)
Digitalization of units	10(12.50%)	3(15.00%)	1(10.00%)	1(16.67%)
Blended teaching and learning	23(28.75%)	6(30.00%)	4(40.00%)	2(33.33%)

The second objective of the study was to examine the quality of the curriculum implementation in Kenyan universities since March 2020. The results of the study as per student respondents on the quality of curriculum implementation was; excellent (7.50%), Good (21.25%), satisfactory (52.50%) and Poor (18.75%). Similar findings were reported by Chairmen of Department who

indicated that the quality of teaching was reported as follows: excellent (20.00%), Good (20.00%), satisfactory (40.00%) and Poor (40.00%). These findings were further supported by the deans of schools who noted that the quality of curriculum implementations was; excellent (16.67%), Good (16.67%), satisfactory (33.33%) and Poor (33.33%). An interview with the two directors of Quality Assurance also concurred with the other respondents when they rated the quality of curriculum implementation was satisfactory. Similar sentiments were also given by the directors of Open, Distance and eLearning (ODEL).

Table 3: Quality of Curriculum implementation using Blended teaching and Learning in Kenyan Public Universities

Response	Students	Lecturers	CODs	Deans
Excellent	6(7.50%)	2(10.00%)	2(20.00%)	1(16.67%)
Good	17(21.25%)	6(30.00%)	2(20.00%)	1(16.67%)
Satisfactory	42(52.50%)	7(35.00%)	4(40.00%)	2(33.33%)
Poor	15(18.75%)	5(25.00%)	2(40.00%)	2(33.33%)

The respondents were further asked to highlight the challenges that the affected the quality of curriculum implementation using blended learning. A summary of the findings is shown in table 4 below.

Table 4: Factors affecting the quality of curriculum implementation using Blended teaching and learning

Response	Students	Lecturers	CODs	Deans
Poor network connectivity	51(63.75%)	15(75.00%)	6(60.00%)	3(50.0%)
Lack of technical skills	62(77.5%)	14(70.0%)	3(30.00%)	1(16.67%)
Lack of laptops/computers	65(81.25%)	4(20%)	0(0%)	0(0%)
Lack of smart phones	35(43.75%)	0(0%)	0(0%)	0(0%)
Limited e-learning resources	66(82.5%)	7(35.00%)	5(50.00%)	2(33.33%)
Inadequate subject matter/content	40(50.00%)	3(15.0%)	4(40.00%)	3(33.33%)

The study findings as shown in table 4 shows that there were several challenges which affected the quality of virtual teaching and learning; poor network connectivity, lack of ICT technical skills, lack of laptops/computers, lack of smart phones, limited e-learning resources and inadequate subject matter/content. The magnitude of these challenges as reported by the student

respondents were poor network connectivity (63.75%), lack of technical skills (77.5%), lack of laptops/computers (81.25%), lack of smart phones (43.75%), limited e-learning resources (82.50%) and inadequate subject matter/content (50.00%). The problem of poor network connectivity (63.75%) and lack of ICT technical skills (77.50%) was also pointed out as a major challenge by the lecturer respondents. However, as shown in the table 4, availability of laptops/computers, smart phones and e-learning resources were not areas of concern as reported by the lecturers. These results were further supported by the CODs and the Deans who reported that availability of laptops/computers, smart phones and e-learning resources are no longer an inhibiting factor to curriculum implementation using blended learning mode.

Discussions

As reported earlier public universities commonly use three online platform namely zoom (36,25%), google meet (30%) and Knet(33.75%) as reported by the student respondents. these findings were supported by lecturers when they noted that zoom (25.0%), google meet (35%) and Knet(40%) platforms were commonly used in the selected universities. This finding was in agreement with that of Mok, Xiong and Rahmam (2021) on their study on COVID-19 pandemic's disruption on university teaching and learning and competence cultivation when they argued that in addressing the constraints of emergency online learning, the university management and the teaching profession must find a mixed-mode of delivery for enhancing teaching and learning.

The results of this study according to the student respondents was as follows: pure online teaching (17.50%), Face to Face (21.25%), synchronized teaching (20.00%), digitalization of units (12.50%) and blended teaching and learning (28.75%). The findings concurred with those of earlier studies that shown that the e-learning curriculum needs to be reviewed and, teachers should be equipped with various teaching strategies to ensure that the quality of classroom teaching is not compromised.

The results of the study on the quality of curriculum implementation of blended teaching and learning as per different categories of respondents was recorded as satisfactory. For example, the Chairmen of Department noted that the quality of teaching was excellent (20.00%), Good (20.00%), satisfactory (40.00%) and Poor (40.00%) respectively. These findings were also supported by the deans of schools who also noted that the quality of curriculum implementations was rated as satisfactory (33.33%) and Poor (33.33%). However, this finding seems to differ with those of Dakhi et al. (2020) who argued that online learning in higher education has leading to meaningful learning as today's learners have already adopted to learning environment that utilize technology. In addition, Dakhi et al. (2020) further noted that the integration of technology in online learning enables for a more flexible interaction between instructors and students, and between students themselves

The results of the study indicated that the quality of the implementation of the university curriculum using blended teaching and learning was affected by several variables related to systemic, technical skills and availability of teaching facilities and resources. Majority of the lecturer respondents (75%) reported that public universities lacked stable network services and 75% also reported lack of sufficient technical skills to navigate the various platforms. This finding concurred with that of Ngwacho (2020who found out that there was a significant relationship between the availability of teaching resources and effective curriculum delivery

during the Covid 19 era. This researcher attributed this result to lack of sufficient ICT infrastructure in the institutions of learning in Kenya.

CONCLUSION

Based on the findings of this study, it was concluded that effective implementation of the university curriculum has been affected by the effects of the Covid 19 pandemic. Since the emergency of the pandemic public universities have been using zoom, google meet and knet platforms to provide online teaching and learning. The teaching strategies used in virtual curriculum implementation include pure online teaching, Face to Face, synchronized teaching and digitalization of units. The quality of curriculum implementation was found to be either poor or satisfactory. This was attributed to several challenges. These challenges range from poor network connectivity, lack of technical skills, lack of laptops/computers and smart phones, limited e-learning resources and inadequate subject matter/content.

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