Assessment of strategies for teaching and learning during COVID-19 pandemic in a Ghanaian university: Realities and challenges

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Abstract

The study investigated the effect of the Covid-19 pandemic on teaching using Learning Management System from the perspectives of academic staff. The study employed a qualitative approach using case study design. The purposive sampling technique was used to sample ten (10) respondents for the study. The semi-structured interview guide was used to gather data from the respondents. Content analysis was adopted to figure out the main issues that emanated from the respondents. It was found that, in the advent of Covid-19 pandemic, e-learning is what most instructors have resorted to but has made teaching and learning challenging since not all students have smart phones to access e-learning platform. Also, certain fields of discipline are making it uncomfortable for lecturers to prepare slides or give students websites to obtain information resulting into students' learning challenges, whereas the mode of instruction favors visual learners only not taking into consideration the needs of other learners. Finally, it was suggested that various senior administrators and heads of departments should educate lecturers whose disciplines require calculations and applications to attach to their slides/documents tutorials about the concept they send to students in order to advance teaching and learning in these hard times. It was concluded that in this advent, e-learning is the suitable teaching methodology but its success is sometimes challenging to both instructors due to issues emanating from network failure and the stressful nature of the methodology. It was recommended that the instructors should use the learning management system [LMS] platform and other e-learning approaches and also ensure that they send files that shall make students to comprehend concepts meaningfully, whilst large classes are subdivided to enhance the effectiveness of teaching and learning in a Ghanaian University.

Keywords: Covid-19 pandemic, teaching, learning, Learning Management System

Introduction

It is now obvious that the Covid-19 pandemic is not only a health crisis but has several: educational, economic, social, cultural, political and technological implications. Globally educational institutions are presently evaluating the effects of COVID-19 and responding to it in order to ensure that they are able to adjust to novel and extraordinary conditions emanating from its emergence, Ghana is no exception. In response to the Corona virus pandemic, on the 15th of March, 2020, President Nana Akufo-Addo of Ghana ordered the closure of all education establishments in Ghana, affecting some 9.2 million basic school students (kindergarten, primary and junior high schools) and 500 thousand tertiary education students. Ghana had recorded 30,366 confirmed cases of COVID-19 as at 20[th]July, 2020. According to Barnum (2020), the COVID-19 pandemic has altered the lives of huge numbers of school administrators, teachers, students and parents around the world, with millions now teaching and learning remotely from home. Although it is still early days, the pandemic is likely to have substantial long-term effects on educational systems worldwide.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) (2020), launched Guidance Note on Education Systems' to provide immediate support to countries as they work to minimize the educational disruption and facilitate the continuity of learning: to plan distance learning solutions and ensure that learning continuous during the COVID-19 outbreak (UNESCO, 2020).

The adverse effects of the COVID-19 pandemic and government lockdown restrictions on the education system appear to be very apparent. The government and education institutions in Ghana suspended face-to-face learning activities in March 2020. Across the various levels of education, pupils and students from poor homes are struggling to continue their education due to expensive internet access and poor supervision of their learning. The closure of colleges and universities has ramifications for students, faculty, administrators, and the institutions themselves. To aid in limiting the spread of COVID-19, several libraries have been temporarily closed. In the United States, a lot of major cities announced public library closures, affecting 221 libraries (Hauck & Stanglin, 2020). Students without internet access at home are striving to keep up with distance learning (World Economic Forum, 2020).

According to Reimers, Fernando, Schleicher and Andreas (2020), internationally, university authorities have also switched to e-Learning through online platforms such as Zoom, WhatsApp, Facebook, and Instagram live, YouTube, and many others to facilitate learning at the tertiary level. At the tertiary education level in Ghana, most final year students have halted their project works, and most postgraduate students have been denied access to certificates and transcripts. Although most institutions have introduced virtual learning, the progress of learning by continuing students has been hindered by unstable and faulty e-Learning platforms, the unavailability of electricity, poor internet connectivity etc. Ghana's government intervention to support education services with virtual learning alternatives is commendable however it is not accessible to many in the country. It is therefore imperative that government and institutions invest and improve upon their virtual learning interventions to promote quality education and protect lives. Finally, it is important for policy makers to use the COVID-19 outbreak to enhance crisis management strategies and strengthen international and domestic co-ordination mechanisms and mutual learning across regions (UNESCO 2020).

Statement of the Problem

Online learning has become a critical lifeline for education, as organizations seek to reduce the possibility of community spread (Murphy, 2020). Technology can assist teachers and students to access specialized materials well beyond textbooks, in multiple formats and in ways that can bridge time and space (Organization for Economic Cooperation and Development, OECD, 2020).

Due to the COVID-19 pandemic, many schools began organising classes via video telephony software such as Zoom. The Organisation for Economic Co-operation and Development has created framework to guide an education response to the COVID-19 Pandemic for distance learning (OECD,2020).

Lack of access to technology or fast, reliable internet access can prevent students in rural areas from using the University of Education's Learning Management System platform. Lack of access to technology or good internet connectivity is an obstacle to continued learning, especially for students from disadvantaged families (UNESCO 2020). In response to school closures caused by COVID-19, UNESCO recommends the use of distance learning programmes and open educational applications and platforms that schools and teachers can use to reach learners remotely and limit the disruption of education (UNESCO 2020). For students without internet at home, this increases the difficulty of keeping up with distance learning (World Economic Forum, 2020).

The closure of schools, colleges and universities not only interrupts the teaching for students around the world; the closure also coincides with a key assessment period and many exams have been postponed or cancelled. A major challenge for final year students in JHS and SHS is how to continue their preparation for their final exams, BECE and WASSCE.

In the case of University of Education, Winneba, lecturers and students have their tutorials on the Learning Management System[LMS] platform and this appears to have been met with many challenges ranging from poor accessibility, poor internet connectivity to inadequate knowledge and skills in information communication technology. Many lecturers have resorted to term papers instead of the usual end of semester examinations. Some students complain of spending more money in the

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acquisition of smart phones and its associated challenges with assessment.

Objectives of the Study

The study sought to assess:

1. The effect of Covid-19 pandemic on teaching and learning in University of Education, Winneba.
2. The strategies that management of University of Education, Winneba should put in place to enhance effective teaching and learning in the advent of Covid-19?

Research questions

1. How has the Covid-19 pandemic affected teaching and learning in University of Education, Winneba?
2. What strategies should management of University of Education, Winneba put in place to enhance effective teaching and learning in the advent of Covid-19?

Theoretical underpinning

The study is underpinned by the viral modernity theory developed by Peters in (2020). Viral modernity is a model that is based on the nature of viruses, the ancient and significant role they play in evolution and culture, and the elementary application to comprehending the role of information and forms of bio information in the social world' (Peters, Jandri, & McLaren, 2020).The concept draws a close association between viral biology on the hand, and information science on the other hand (Peter et. al, 2020). This theory discusses the impact of information on infectious diseases and their consequential effects on education and socio-cultural activities of people. Peters et. al, (2020), explains that media play part in the fight against pandemics and identifies some journalists, and bloggers as messengers of inaccurate information on social media and described it as a ways of helping to fuel panic, hysteria and stigma that are associated with infectious diseases outbreak (Peters et al., 2020). This study used modernity theory to discuss the COVID-19 and its impact on teaching and learning at University of Education Winneba.

The Effects of Codvid-19 on Education Globally

The 2019 coronavirus epidemic has affected educational arrangements globally, leading to thenear-total closure of schools, colleges and universities. As of 27 April 2020, nearly 1.725 billion learners were affected owing to schools' closing in response to the epidemic. On 23 March 2020, Cambridge International Examinations (CIE) made a pronouncement of the annulment of Cambridge O Level, Cambridge IGCSE, Cambridge AICE Diploma, Cambridge International AS & A Level, and also Cambridge Pre-U examinations for the May/June 2020 series all over the world. International Baccalaureate exams have also been annulled (UNESCO, 2020).School closings impact not only teachers, students and families, but have extensive economic and societal costs. School closings in response to COVID-19 have thrown light on numerous social and economic issues, including isolations, digital learning, student debt and food insecurity as well as health care, access to childcare, housing, disability services and internet. The impact was severe for underprivileged families, and their children, causing intermittent learning, conceded nutrition, childcare complications, and resultant economic cost to families who could not work (UNESCO, 2020).

To date, COVID19-driven schools' closure has impacted over one billion students. In response to the coronavirus pandemic, UNESCO estimated that 107 countries had implemented national school closure related to COVID-19. Indeed, by 18th of March 2020 affecting 862 million children and young people, roughly half the global student population (Russel et al., 2020). Even more seriously, Bozkurt and Sharma (2020) reported that more than 1.5 billion learners of all ages from around the globe are affected due to the school and university closure owing to COVID-19 pandemic (UNESCO, 2020). The affected number of students equal 90% of the world's enrolled students (UNESCO, 2020) and the shutting down of schools have widened learning inequalities and hurt vulnerable children and youth disproportionately. Despite the low rates of the infections among children, schools' closures are critical pillar of the social distancing tools to mitigate the spread of the disease and avoid an acceleration of cases that will put a strain on health services. Its effectiveness as a measure to slow down the spread of contagion will depend on the exact timing of the closure, the age structure of the population and the length of the closure (World Bank, 2020). Around mid-March 2020, governments across Africa through their Ministry of Health announced that all schools, colleges and universities closed indefinitely amid fears of the Coronavirus (COVID-19) outbreak that had reportedly ravaged most parts of China, United States of America, Italy, Spain and other parts of Europe and Africa (Sintema, 2020).

The Effect of Covid-19 on Tertiary Education in Ghana

Teaching and learning in the Universities and their affiliate colleges in Ghana have also suffered a shock. Even though, online learning on educational platforms such as Google classroom, Telegram, Zoom etc. are not entirely new ways of engaging and interacting with students in our universities but the shift from traditional face-to-face to 100% online teaching and learning threatens continuity and requires much efforts to sustain high academic standards. The decision to go online was not immediately welcomed by all students and lecturers. Some university students through the Students' Representative Council demanded for the supply of internet data to enable them participates in the online

learning. The decision also meant that lecturers needed enhanced knowledge in emergency remote teaching to be able to have effective online interaction with their students (Nantwi & Boateng, 2020).

Online training for University and College of Education lecturers was then organized by the Digital Society School, Amsterdam University of Applied Sciences in collaboration with T-Tel from 1st– 8th May, 2020 and the programme was worthwhile according to the participants. Currently, teaching and learning for university students is ongoing amidst infrastructural and technological challenges however, there are lessons to learn from this pandemic for the future (Nantwi & Boateng, 2020).

Mitigating the Effect of Covid-19 on Tertiary Education in Ghana

The World Bank, UNESCO and other development partners have already rolled out a number of education resources that developing countries can readily deploy. The Edutech industry in general is also providing free online platforms to engage directly with students and to assist school administrators and governments to identify technological solutions that support remote learning. On a larger scale, the countries should explore international loan and grant facility for education as part of mitigation and recovery plans in weathering the COVID-19 crisis (UNESCO, 2020).

Reaching the vulnerable population in Ghana will require adopting multiple learning delivery modalities ranging from television, radio and SMS-based mobile platforms that are more easily available to the poor. With over 80 percent of the adult population having access to radios and phones, it would be possible to reach most children left behind with targeted instructions via these mediums. However, while online platforms offer personalized learning, other delivery modalities require a central planner, as well coordination between all three tiers of government, and the private sector. This is where the role of the Ministry of Education will crucially extend beyond traditional policy making and regulations. The commissioners of education could help in the deployment and use of these tools within states, while the federal government coordinates the state efforts by plugging capacity and finance gaps. The government could draw on the experience of Sierra Leone, where the Ebola crisis led to school closures for about 9 months. To reach the most vulnerable and excluded children, the Government of Sierra Leone harnessed radios and televisions to deliver lessons. Whatever strategy the government chooses to incorporate, they must ensure that it is cost-effective (at least available within the home) and easy to use (children and their parents/guardians have some knowledge of it beforehand or can easily learn to use them) (Upoalkpajor & Upoalkpajor, 2020).

Methodology

Research Paradigm

Henn, Weinstein and Foard (2006) indicated that a paradigm is 'a set of assumptions about how the issue of concern to the researcher should be studied' (p.10). Interpretive paradigm was chosen because it allowed the researchers to access the experiences and viewpoints of the research participants and recognizes the role of the researcher and the research participants in knowledge construction, acknowledging interpretations as socially constructed realities (Kusi, 2012). It is also worthwhile in an attempt to apprehend a phenomenon in all its complexity in a particular socio-cultural context (Creswell, 2014).

Research Design

The study used qualitative study embedded in an interpretive case study. An interpretive case study takes a phenomenon, or our perception of a phenomenon, as starting point (Coe, 2012). It aims to represent, describe and understand particular views of the educational world. In this case, the aim was to understand Covid-19 pandemic amidst teaching and learning in University of Education, Winneba from the perspective of lecturers.

Population, Sample and Sampling Techniques

The target population of this study comprised of all lecturers in UEW, Winneba campus. Annum, (2017) contended that an accessible population is where researchers draw their samples. The accessible population for the study comprised of all lecturers in UEW, North Campus.For interview schedules, Lopez and Whitehead (2013) recommends 3-5 respondents' while Yount, (2015) also suggest that a range of eight and fifteen respondents. These recommendations are premised on the claim that in qualitative studies, samples are typically small and based on information needs (Polit & Beck, 2010). Therefore, these have informed the choice of the researchers to purposivelyselect ten (10) lecturers for the study from four departments in the university.Agyedu, Donkor and Obeng, (2013) stated that purposive sampling enables researcher to gain access to rich and in-depth information into cases whereby size and specific characteristics of the sample depend on the study purpose. Table 1 illustrates the number of lecturers sampled from each department.

Table 1: Sample distribution of respondents

Department	Frequency	Percentage
Basic Education	3	30%
Educational Administration and Management	2	20%
Geography	2	20%
ICT	3	30%
Total	10	100%

Source: Researchers' construct (2020)

Research Instrument

The research instrument employed for this study was semi-structured interview. Annum (2017) posit that an interview is an interaction between two people or a group of people, where oral questions are posed by the interviewer(s) to elicit response from the interviewee(s). Annum is of the view that, interviews enables researchers to meet face-to-face with individuals to interact and generate ideas in a dialogue that centers on common interest.

Trustworthiness and Confidentiality

The trustworthiness of this study was enhanced by including participants differing viewpoints and giving more credibility to the findings. Confidentiality was ensured by not sharing participant's personal information with other participants or any other individual.

Data Collection and Data Analysis Procedures

The researchers arranged with the participants on different occasions for about twenty-five minutes to solicit for their views on how the pandemic affects teaching and learning at UEW and strategies the administrators within the institution should put in place to enhance effective teaching and learning. The interview data were examined using qualitative content analysis.

Ethical Considerations

All participants were given a guarantee of confidentiality and anonymity in reporting the information as well as seeking their consent.

Results and Discussions

Research question 1: How has the Covid-19 pandemic affected teaching and learning in University of Education, Winneba?

This question sought to find out how the Covid-19 pandemic has affected teaching and learning at UEW. The phenomenon in which Ghana finds herself likewise other countries, University of Education, Winneba instructors have no option than they resorting to the university's learning management system [LMS] platform and other computer assisted instruction but the methodology is very tedious due to issues emanating from network sessions within the institution and the students place of residences. In addition, the strategy is very stressful especially to lecturers whose disciplines require calculations and applications, usually results in rote learning among students, and favors only visual learners. The lecturers also confirmed that e-learning is time consuming. It is very demanding on their part to prepare slides or give the students a website to obtain information as some student are challenged with poor internet connectivity thus making teaching and learning very challenging. They also claim it is sometimes difficult to give students immediate feedback rendering assessment ineffective. The findings agree with Upoalkpajor and Upoalkpajor (2020) and UNESCO (2020) who found that COVID-19 pandemic has significant impact on education in Ghana; and as such schools want resources to reconstruct the loss in education through this pandemic.

Commenting on this issue during the interview session, a respondent expressed:

> *"The Covid-19 pandemic has made teaching and learning very challenging. Most of us do not like using the e-model of instruction since not all students have sharp phones to access the information or have valid e-mail addresses"* (Lecturer 1).

Another also supported:

> *"Even at large lectures, some students do not pay heed to what instructors are saying. How much more e-learning? Some will not even download the materials, let alone learning it"* (Lecturer 2).

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Another buttressed:

> *"Students come from all sorts of cultural backgrounds with different learning styles. This mode of instruction favour visual learners only not taking into consideration the needs of other learners"* (Lecturer 3).

A participant had this to say:

> *"When it comes to disciplines such as the Sciences, e-learning is not comfortable for the students at all. The discipline involves calculations and applications so e-learning alone probes problems to them"* (Lecturer 4).

A respondent commented:

> *"It is usually not possible for students to communicate to their lecturers and elaborate on issues after they had posted files to them making this sort of learning a student-centered approach leading to no conceptual meaning among students but rote memorization of concepts among students"* (Lecturer 5).

Another established:

> *"Lecturers that usually teach without using projectors especially mathematics instructors usually find it difficult in the manner in which they should to prepare slides for students"* (Lecturer 6).

Another respondent stated:

> *"Some students left and went to villages where networks are bad on numerous occasions. How can these students cope with this e-learning? It will surely result in a tremendous decline in their academic outcomes"* (Lecturer 7).

A respondent purported:

> *"It has made teaching indeed boring. Looking at the manner in which my field of discipline is, it is readily uncomfortable for me to just prepare slides or give the students a website to obtain information. We need to be resourced both lecturers and students. There is no way students may not face*

challenges when learning it" (Lecturer 8).
> *"It is time consuming when it comes to e-learning. Sometimes you have to stop whatever you are doing to respond to students' questions one after the other online in order for them to gain better understanding"* (Lecturer 9).

Another respondent opined:

> *"Teaching with the use of the internet is sometimes stressful especially when it comes to concepts that the instructor needs to use demonstration approach to enhance students' conceptual meaning. This strategy is usually leads to rote memorization of concepts among students thus, not enabling them to bridge the gaps between theory and practice"* (Lecturer 10).

Research question 2: What strategies should management of University of Education, Winneba put in place to enhance effective teaching and learning in the advent of Covid-19?

This research question had the primary intent of finding out the strategies UEW management should put in place to enhance effective teaching and learning in the advent of Covid-19.

It was found that in this adventof Covid-19, e-learning is what most instructors have resorted to but has made teaching and learning uninteresting since not all students have sharp phones or electronic gadgets to access the information or have valid e-mail addresses, has made teaching indeed boring with regards to the manner in which certain fields of discipline are making it uncomfortable for them, just prepare slides or give students a website to obtain information because it results in students learning challenges, whereas the mode of instruction favour visual learners only not taking into consideration the needs of other learners, most students shall not pay heed to it, and time consuming when it comes to its implementation, this confirms Karp and McGowan, (2020) who underscored that fact that schools ask for online learning help as coronavirus policy confusion persists. It was again released that the management of UEW should divide large lectures involving large number of students to prevent overcrowding with an appropriate time apportioned for each group whereas students at various levels should be apportioned to a particular day to cater for the needs of all students. It further came into light that administrative heads in UEW should use inducements as transformational leaders resort to at times to boost their morale to effectively try their best in employing the e-mode of instruction that can enhance students understanding, whilst various administrative heads and HODs should educate lecturers whose disciplines require calculations and applications to attach to

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their slides/documents tutorials about the concept they send to students to enhance teaching and learning. Finally, it was established that managerial heads in UEW should see to it that lecturers send documents to students on regular basis whereas the leaders in UEW should make sure that network systems within the institution is stronger.

Respondents' expressed varied views as follows:

A respondent suggested:

> *"Lectures involving large number of students should be divided to prevent overcrowding with an appropriate time apportioned for each group. This will even help students to understand lessons better"* (Lecturer 1).

Another supported:

> *"The university management should make sure that all the network systems within the university is very strong enough in order to allow the lecturers to easily access information and to make it readily available to students at all times"* (Lecturer 2).

Another also had this to say:

> *"The university management should enlighten students on the need to pay heed to the e-learning approach. In doing so, students may be aware of the tremendous impacts of the approach since we are all in hard times"* (Lecturer 3).

A respondent articulated:

> *"Students should be divided into sub-sections to cater for all students' needs. For example, on Monday all level 100's should attend lectures, on Tuesday for 200's and the likes to prevent the overcrowding situation"* (Lecturer 4).

Another respondent opined:

> *"The university management should organize a seminar to encourage the lecturers on the need to try as much as possible to resort to the e-learning approach especially the instructors that handle courses involving calculations and applications"* (Lecturer 5).

A respondent suggested:

> *"The managerial heads within the institution should use inducements to boost the morale of lecturers on the need to put more effort in the e-learning approach likewise paying special attention to final year students"* (Lecturer 6).

Another also spelt out:

> *"Managerial heads should make the network systems in all lecture halls strong enough in order for students that are obliged to come to campus to easily access information efficiently and effectively"* (Lecturer 7).

A respondent spelt out:

> *"The university management should ensure that the lecturers send information to their students on regular basis likewise the value of information they send. This is to ensure students meaningful comprehension of the document being sent"* (Lecturer 8).

Another purported:

> *"Providing a stronger networking systems for the instructors on regular basis should be the prime notion of the managerial heads in the university and also ensure that lecturers at various departments make information available to their students on regular basis. This can be done by the various HODs monitoring and ensuring that all lecturers within the department prepare notes and make it readily available to students"* (Lecturer 9).

A respondent established:

> *"Administrative heads and HODs should educate lecturers whose disciplines require calculations and applications to attach to their slides/documents tutorials about the concept they send to students. This shall help the students to meaningfully comprehend the concepts"* (Lecturer 10). In spite of all the challenges faced others praised university management having to put up this system to help the spread of the disease. For example, a participant commenting said" *the management has done a lot to put students on LMS and this has reduced*

the spread of the disease among students"

Lecturer 7 had this to say: "I *will say the university management had the foresight because they started using LMS in the last seven years ago and they must be commended because it has helped to conduct everything including exams online*".

The results imply that e-learning is what most instructors are employing despite its challenges. If administrative heads provide strong network system within UEW, subdivide larger lectures and or resort to allowing students at a particular level to all attend lecture on a single day, it shall help to enhance teaching and learning. In a similar manner, when the leaders motivate lecturers by using inducements, it makes lecturers to put in their efforts to teach students in this advent likewise lecturers whose disciplines require calculations attaching tutorials to academic documents they send to students.

Conclusions

The Coronavirus pandemic is impacting the global economy through numerous channels and the educational sector is one it has affected most since it has placed teaching and learning at a standstill. Due to this global pandemic which is a biological canker for all nations, instructors need to devise strategies to teach their students in order to meet curriculum demands. Nevertheless, due to the nature of the virus, most instructors in UEW have resorted to e-learning as the suitable teaching approach but its success is sometimes challenging to both instructors and students due to issues emanating from networking and the stressful nature of the methodology. Again, owing to the fact that the manner in which documents are sent to students makes it challenging for students to meaningfully comprehend issues emanating from the concepts. Due to the fact that social distancing should be observed in this era, managerial heads in UEW should divide large lectures likewise allow all students at a particular level to attend lectures together on a specific day to ensure that they uniformly occupy all the lecture halls to enhance teaching and learning. In a similar vein, since various heads within the institution have the ultimatum to direct lecturers, they should see to it that they send documents to students on regular basis, attach tutorials when necessary, and make sure they provide a strong networking system for them to enhance delivery of teaching and learning.

Recommendations

1. Instructors in UEW should resort to the e-learning approach during this advent to enhance effective teaching and learning.
2. Academic staff at UEW should ensure that they send files that shall make students to comprehend concepts meaningfully by attaching tutorials to it when necessary to aid meaningful comprehension.
3. UEW students should pay heed to the e-learning approach lecturers have resorted to in order for them to reach their educational potentials.
4. The management of UEW should ensure that large classes are subdivided likewise allowing students at different levels to attend lectures on a specific day to enhance the effectiveness of teaching and learning within the institution.
5. The network system within UEW should be made stronger enough for lecturers to effectively utilize it to deliver instruction to students. This could be done by expanding the network infrastructure.
6. Various HODs within UEW should ensure that lecturers at their department send documents and or attach tutorials when the need arises to their students on regular basis.

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