

Original Research Article

The Use of Digital Media Platforms for Continuing Education and Supporting Self-Directed Learning During The COVID-19 Pandemic: The Case Of UCC, Ghana

Michael Asante Quainoo¹ and Tiamyod Pasawano^{2*}

Abstract

¹Rajamangala University of Technology Thanyaburi, Faculty of Technical Education, Pathum Thani 12110 Thailand

²Rajamangala University of Technology Thanyaburi, Faculty of Technical Education, Pathum Thani 12110 Thailand

*Corresponding Author's E-mail:
michael_q@mail.rmutt.ac.th
tiamyod@rmutt.ac.th

The outbreak of the novel Sars-Cov-2 virus (COVID19) has given birth to new and innovative ways of doing things including teaching and learning. With the global closure of schools as a mitigating factor to reduce the spread of the virus, most schools have been forced to move online, using digital media technologies to deliver instructional materials to students. Though online learning is not a new phenomenon, it has seen tremendous growth in recent times due to the pandemic. Using means and descriptive frequencies, this study explored the online platforms used by the University of Cape Coast (UCC), Ghana, to enable students to continue their education during the pandemic. It also assessed the challenges students faced with using these platforms and outlined the benefits of the platforms for supporting self-directed learning. Findings revealed that most students in UCC used online video conferencing platforms (Zoom Cloud Meetings) as well as social media platforms (Messenger) to receive content from teachers during the pandemic. The study also revealed that students faced the most difficulty in securing a regular supply of internet making it difficult for them to benefit fully from their online experience. However, these platforms are useful for encouraging self-study skills among students.

Keywords: COVID-19, Online Video Conferencing, Self-Directed Learning, Social Media

INTRODUCTION

The outbreak of the Corona Virus pandemic (COVID-19) has forced governments to close down most schools as a mitigating factor to reduce the spread of the novel virus. According to the World Bank Education Global Practice, (2020) the closure of schools during the early periods of the outbreak has left about 1.6 billion youth and children out of school. Due to this, most schools across the globe are adopting alternative learning options such as online learning to limit the impacts of the virus on education

(UN-Ghana, 2020).

Basilaia and Kvavadze (2020) conducted a study to investigate the transition to online learning during the SARS-COV-2 pandemic. Using a private school as a case study, the paper studied the capacities of the country and its population to continue the education process at the schools in the online form of distance learning and found that TV School and Microsoft teams were mainly used for public schools whereas alternatives

such as Zoom, Slack and Google Meet, and distance learning platforms could be used for online education and live communication. The paper also gives examples of their usage and recommends the use of these platforms for continuing education in other countries affected by the COVID-19 pandemic. Hoq (2020) also surveyed how e-learning can solve the disruptions in education in Saudi Arabia during the COVID-19 and found that most teachers have a favorable disposition to the use of E-learning as an alternative form of learning during the COVID-19 pandemic.

The effect of the COVID-19 situation on Ghana's educational system has also received some attention from researchers. According to the United Nations (2020) report on Ghana's response to the impact of the COVID-19 on education, soon after school closures were announced, the Ministry of Education (MOE) and Ghana Education Service (GES) developed the COVID-19 Emergency Support Provision of Distance and Remote Learning Systems Solutions, which was followed by the launch of distance and online learning platforms and the adoption of lessons broadcasted on Ghana Learning television (GLTV) for 1 million senior high schools (SHS) students.

However, few studies have been conducted in Ghana on the effectiveness of the use of such distance learning platforms in teaching and learning during the COVID-19 pandemic. This study, therefore, seeks to fill that gap by surveying the perceptions of some Ghanaian students at the University of Cape Coast (UCC) on the effectiveness of these online platforms in continuing education during the pandemic. To this end, the study seeks to achieve the following objectives. The study seeks to identify the digital media platforms used by UCC to continue teaching and learning during the COVID-19 pandemic. The study also seeks to outline the challenges students faced with using such digital media platforms during the pandemic and; assess the effectiveness of these platforms in supporting self-directed learning among university students.

Due to travel restrictions, the researcher had to study online with RMUTT in Thailand during the first semester of his master's program and found that though the online option allows for more lecturer-student interactions and sharpens student's soft skills in technology, studying online is also presented with some obstacles including the difficulty of securing a stable internet network and cost involved in frequently purchasing bandwidth for online studies especially for students in a developing country like Ghana. Due to the researcher's personal experience with online learning, he embarks on this study to understand the nature of the situation for most students in Ghana studying online due to the pandemic.

This study is significant because it seeks to contribute to the extant literature on the effectiveness of using digital communication technologies and e-learning platforms to

support teaching and learning more so in developing countries. The study will also help educational media developers to understand the challenges students face with using certain online platforms and how it can be improved to make them more usable.

Several studies have been conducted on the impacts of COVID-19 on education and how schools have adopted new methods of teaching and learning to continue education during the pandemic. Most of these studies have focused on investigating the online platforms used by most traditional "brick and mortar" schools to ensure continuous education during the COVID-19 pandemic. This section will, therefore, focus on reviewing the literature on the effects of COVID-19 on traditional brick and mortar schools. The following themes are expanded in this review: COVID-19 and its effects on education, the transition to E-Learning during COVID-19 and COVID-19 and E-Learning in Ghana.

COVID-19 and Its Impacts on Education

The world woke up to the outbreak of the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) which later came to be known as COVID-19 at the dawn of the year 2020. It was first identified in humans by officials in Wuhan City, China (WHO, 2020). In December 2019, an increasing number of people with pneumonia-like symptoms whose origin was unknown alarmed health professionals in Wuhan who reported the cases to the World Health Organization (WHO). On 7th January 2020, the pneumonia-like disease was later discovered to be a new type of coronavirus. However, by March 11, 2020, WHO declared the COVID-19 a global pandemic with a total of 118,000 infections in about 114 countries and 4,291 deaths at the time (WHO, 2020). As of 6th November 2020, the worldwide infections of the COVID-19 stood over 40 million with over 1 million deaths (Worldometer, 2020). The outbreak of the novel Coronavirus has affected all aspects of life, including education. According to a UNESCO report cited in the United Nations report on the COVID19 socio-economic impacts on Ghana, as of 6th May 2020, about 177 countries had closed schools nationwide, impacting over 1.2 billion learners globally, who are mainly children and youth. The closure of schools during the COVID-19 was a necessary mitigating factor adopted by many countries to reduce the spread of the virus.

The Transition to E-learning Platforms

The closure of schools during the Coronavirus pandemic has led to many schools adopting alternative means to continue education amid the pandemic (Radha et al., 2020; Hoq, 2020; Basilaia and Kvakvadze, 2020). Radha

et al. (2020) argued that E-learning has become quite popular among students across the world particularly during the lockdown period due to the COVID-19 pandemic. Their study sought to investigate the E-learning processes among students who are familiar with web-based technology and to find out solutions to improve the self-study skills of these students and found that E-learning seems to be a forthcoming trend. They argued that the online method of learning is best suited for everyone enabling the learner to access updated content whenever they want it.

Hoq (2020) also argued that it is important to adopt e-learning in the education system. "This incorporation into education symbolizes a move of the responsibility of teachers from a dispenser of learning materials to catalysts of students." (pg. 461). The purpose of his study was to explore the notion of e-learning and talk about its need and span in education whereas focusing on how e-learning can solve the disruptions in the education sector due to the pandemic (Covid-19). Findings reveal that the majority of the teachers in the Kingdom of Saudi Arabia held a positive opinion towards e-learning especially for complementing traditional face to face learning. Basilaia and Kvavadze (2020) also sought to study the capacities of the country of Georgia to continue the education process at the schools in the online form of distance learning using online portals, TV, and Microsoft Teams for public schools and alternatives like Zoom, Slack, Google Meet and EduPage. Using a case study, where the Google Meet platform was implemented for online education in a private school with 950 students their study revealed that that the quick transition to the online form of education went successful and could be used as alternative forms of teaching and learning in the future.

COVID-19 and E-Learning in Ghana

The case in Ghana is not much different from that of other countries that were hit hard by the COVID-19 pandemic. Ghana, like many other countries affected by the pandemic, has resorted to the use of online and distance learning programs to ensure the continuation of education during the pandemic. A few Ghanaian scholars have studied the use of distance and online learning platforms as a means of continuing education during the COVID-19 pandemic. Most of these studies have focused on the challenges associated with the use of these platforms (Aboagye et al., 2020; Henaku, 2020; Owusu-Fordjour et al., 2020). In the case of Aboagye et al. (2020), they conducted a study that explores the challenges students in tertiary institutions have reported facing in online learning during the coronavirus pandemic. Using a sample of 141 participants, and a component factor analysis, their study revealed that the most important challenge for students to study online was

accessibility issues. Followed by social issues, lecturer issues, academic issues, and generic issues. They recommended that a blended learning approach to help students complete their studies during the pandemic would have been more helpful. On this same note, Henaku (2020) also found that some college students in Ghana experienced internet connectivity problems, financial difficulty due to the high cost of internet bundle, challenges with devices, and disruption as a result of the need to assist in household production. Owusu-Fordjour et al. (2020) also argued that some students are unable to study effectively from their homes thereby, making the online system of learning very ineffective. They also argued that parents are unable to assist their wards on how to access the online learning platforms due to their limited technical know-how. The limited access to the internet and lack of knowledge about these technological devices by most Ghanaian students also posed another challenge to effective online learning during the COVID-19 pandemic. They, therefore, recommended that students be introduced to innovative and offline e-learning platforms to supplement classroom teaching and learning.

The review has revealed that the use of E-learning platforms for continuing education was adopted by most countries during the closure of schools due to the pandemic. While some developed countries have chalked some success with using such platforms to continue teaching and learning, the situation in Ghana during the COVID-19 pandemic has been fraught with a lot of challenges. Much effort must be put into making online learning easier and more accessible to students in Ghana. Given this, the current study seeks to investigate the potential of using digital media platforms to support self-directed learning among students by investigating the effectiveness of using these platforms for continuing education during the COVID-19 pandemic in Ghana.

METHODOLOGY

The quantitative descriptive survey method was employed in this study. According to Aliaga and Gunderson (2002), quantitative research methods involve explaining an issue or phenomenon through gathering data in numerical forms and analyzing it with the aid of mathematical methods, particularly statistics. Given this, a descriptive survey was used to collect respondents' views on perceptions on the effectiveness of using digital communication platforms in supporting self-directed learning during the COVID-19 pandemic.

Research Site

The University of Cape Coast was the site of this study.

UCC is a public Ghanaian university in Cape Coast, Central Region established in 1962. It has five colleges and schools in Science, Allied Sciences, Humanities, Business, Education, and Graduate studies. The University of Cape Coast was selected for this research because the researcher had his undergraduate studies there and worked there as a Teaching Assistant and as such had access to students' online platforms where the link to the survey was shared.

Population and Sample

All students at the University of Cape Coast, Ghana (UCC) were the target population of the study. The simple random sampling technique was used to select participants for the study. Given this, the researcher chose participants for the study based on the availability of persons willing to participate in the survey and to ensure that everyone within the target population has an equal chance of being selected. Due to the Coronavirus and social distancing protocols, the survey was conducted online. A link to the survey was shared on several social media platforms including students' WhatsApp groups. The students were then encouraged to fill the forms. At the end of the eight weeks long survey, a total of 101 respondents were recorded.

Data Collection and Analysis

Since the study took on the form of an online survey, data was collected directly from individuals through the use of Google forms. The questionnaire was made up of a set of 30 close-ended as well as open-ended questions aimed at soliciting specific responses from participants to enable the researcher to achieve the objectives of the study. The descriptive data analysis was then employed in analyzing the data that was collected from the survey. Questionnaire items and their responses were then exported from the Google forms to the Statistical Package for the Social Sciences (version 22) for analysis. Findings were, however, presented using descriptive statistics in the form of tables and charts based on frequencies and percentages.

Ethical Considerations

Research ethics involves the protection of the dignity of participants and their information in the publication, (Fouka and Mantzorou, 2011). Therefore, to ensure that ethical procedures were upheld in this study, the researcher sought the informed consent of participants before engaging them in any data collection exercise. Participants were also assured of confidentiality and

anonymity. Since participation in the study was voluntary, no individual was subjected to force or any form of coercion for participation.

RESULTS

At the end of the survey, a total of 101 participants were recorded. The responses from these participants were however used for the study. The findings from the data are presented herein.

Digital Media Platforms Used for Continuing Education During COVID19 Pandemic

One of the objectives of this study was to identify the digital media platforms used to continue education during the COVID19 pandemic. The study revealed that the University of Cape Coast, like many other universities in Ghana, had to transition to using online platforms to continue to deliver instructional materials to students. According to the survey, most lecturers in UCC made use of social media platforms, online learning tools, and video conferencing applications such as Facebook Messenger, WhatsApp, Moodle, Zoom, Google Meet to deliver instructional materials to students during the pandemic. (See Figure1)

It can be seen from figure 1 that some lecturers used a combination of video conferencing tools such as Zoom, Google Meet, and Microsoft Teams for delivering instructional messages, whereas others used social media applications such as Twitter, Facebook Messenger to deliver their instructional material. However, from figure 1, it can be seen that the Zoom Cloud Meeting application was the most widely used digital platform for delivering instructional material to students during the pandemic. The participants were also asked to select among a list of digital platforms that they considered the most effective for teaching and learning during the pandemic. Once again, Zoom Cloud Meeting emerged as the most effective digital platform for teaching and learning during the pandemic. (See Figure 2)

Figure 2 reveals that participants consider Zoom Cloud Meetings as the most effective digital platform for delivering instructional materials compared to Moodle, MS Teams, Zoom Cloud Meetings, and Facebook messenger. When asked about their overall experiences with using these digital platforms for learning, the majority of the participants indicated that they found it interesting. (See Table 1)

Challenges Students Faced with Using Digital Media Platforms for Teaching and Learning

The study also sought to unearth the challenges associ-

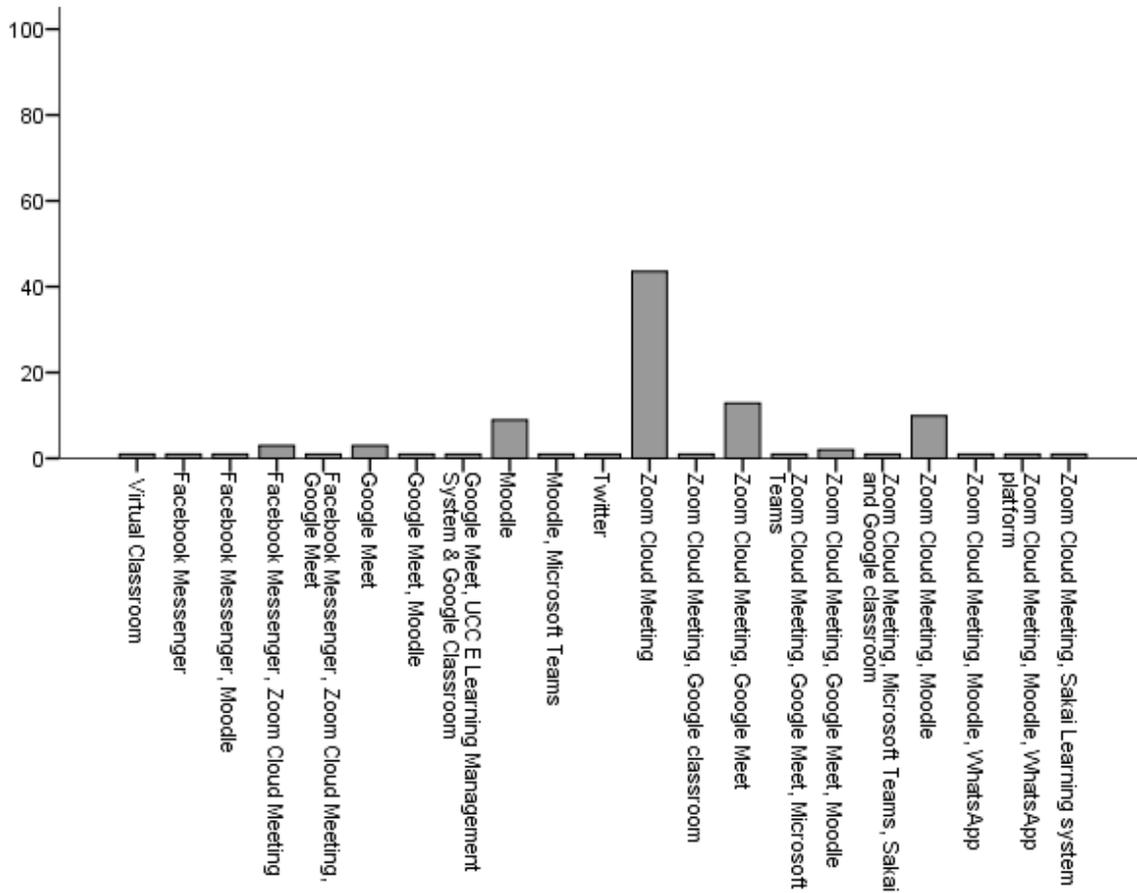


Figure 1. Digital Platforms used for teaching and learning during COVID19

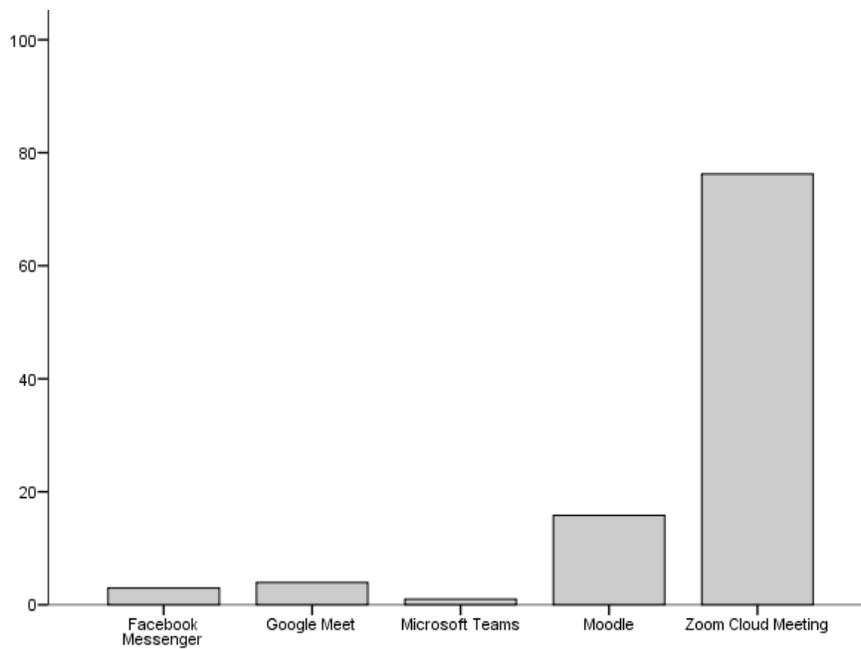


Figure 2. Most effective digital platform for teaching and learning

Table 1. Participant’s experience with using digital platforms for learning

Experience	Frequency	Percent	Cumulative Percent
Exciting	18	17.8	17.8
Frustrating	34	33.7	51.5
Interesting	43	42.6	94.1
Rewarding	6	5.9	100.0
Total	101	100.0	

Source: Field data, 2020

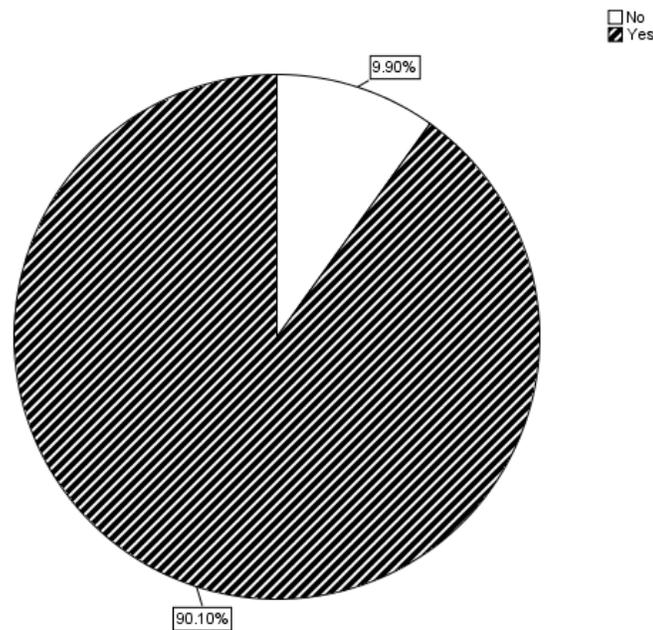


Figure 3. Participants response to whether they faced any challenges with using digital media platforms for learning

ated with using digital media platforms as an alternative source of teaching and learning during the COVID19 pandemic. To this end, participants were asked some questions concerning the difficulties they faced with using such digital media platforms for learning during the pandemic. Participants’ responses when asked whether they faced any challenges with using these digital media platforms reveal that the vast majority of them did. (See Figure 3)

Figure 3 reveals that 90% (91) of participants indicated that they had challenges with using digital media platforms for learning during the pandemic. To understand the nature of the challenges these students faced with using such digital media platforms for teaching and learning, participants were asked to select out of a list of items the challenges they usually faced in using these digital media platforms for learning. (See Figure 4)

Figure 4. Reveals that unstable internet connection is

a predominant challenge most of the students reported having faced with using these alternative platforms for learning during the pandemic. This was followed by the cost of regularly purchasing internet bundles, app usability problems, and lack of interactivity. This implies that the majority of the students faced challenges with securing a stable internet connection to continue to have access to the instructional content being provided to them through these digital media platforms. Also, the cost of regularly purchasing an internet data bundle for their online lessons posed another challenge for students. While a lack of familiarity with these digital media platforms also posed usability challenges for only a few students. Participants were asked if they had had ICT preparatory classes as part of their programme of study. Participant’s responses reveal that about 86% (87) of them had had such ICT training as part of their programme perhaps accounting for the reasons why only

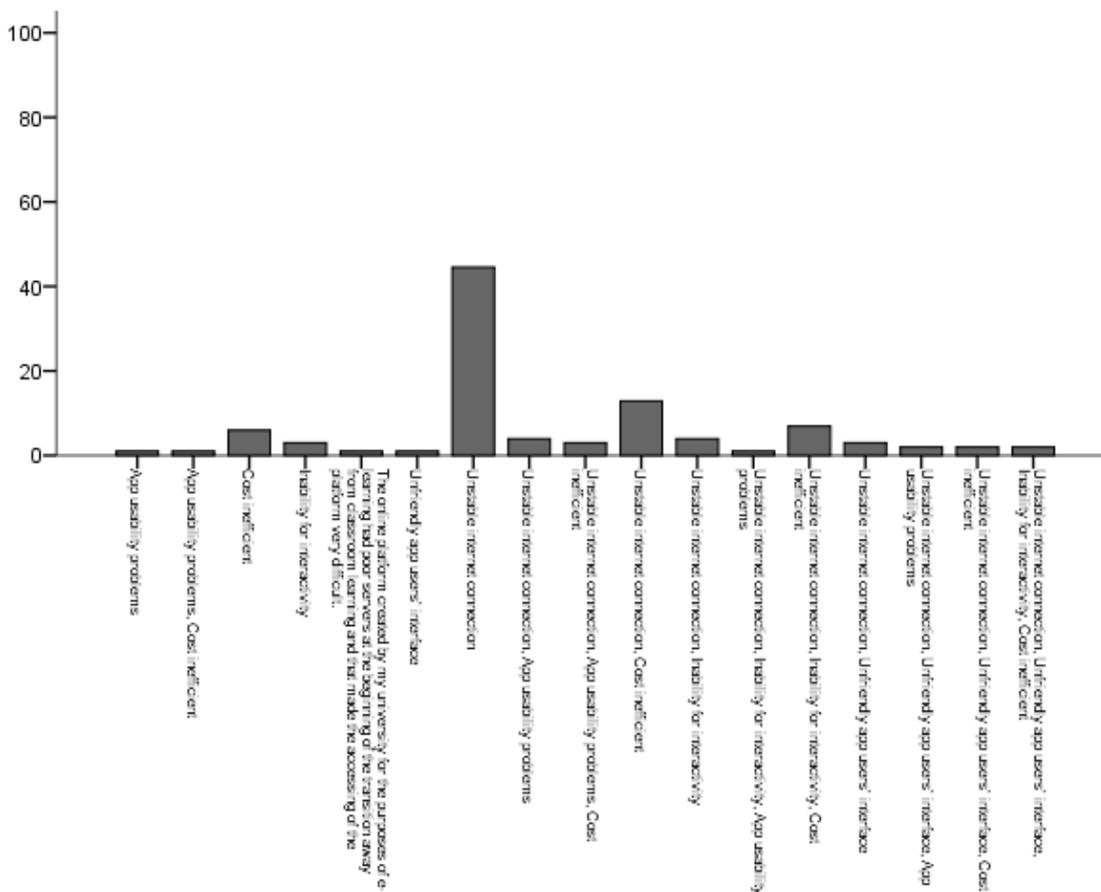


Figure 4. Challenges participants faced with using digital media platforms for learning

Table 2. Participant's level of ICT proficiency

Proficiency level	Frequency	Percent	Cumulative Percent
Advanced	15	14.9	14.9
Average	35	34.7	49.5
Good	46	45.5	95.0
Low	3	3.0	98.0
Weak	2	2.0	100.0
Total	101	100.0	

Source: Field data, 2020

a few of the participants reported usability issues as a hindrance to their ability to use these platforms to access their learning materials. Perhaps this explains why about 81 % of the participants reported that their proficiency in ICT was average to good. (See Table 2)

To overcome the challenges identified, participants revealed that they usually try to secure a more stable internet connection to ensure an uninterrupted internet supply even though it usually comes at a high cost.

Using Digital Media Platforms for Continuing Education and Self -Directed learning During the Pandemic

Despite the challenges faced by participants with using digital media platforms for continuing education during the COVID19 pandemic, the majority of the participants i.e. about 92% (93) of participants indicated that they had benefitted from the use of these digital media platforms for learning during the pandemic. However, to understand

Table 3. Participants' level of agreement on statements about the benefits of using digital media for learning

Statement	N	Min	Max	Mean	Std. Deviation
The use of digital media platforms for teaching and learning is as effective as traditional teaching and learning.	101	1.0	5.0	2.851	1.1348
Universities should consider teaching more courses through social or digital media platforms.	101	1.0	5.0	3.030	1.0145
Online learning is more interactive than face- to- face.	101	1.0	5.0	2.267	.9684
Digital media platforms are useful for self-directed learning among students.	101	1.0	5.0	3.436	.9738
Online learning makes learning more fun and interesting.	101	1.0	5.0	3.040	1.1128
I will be comfortable if my university decides to continue my courses online till the end of the year.	101	1.0	5.0	2.792	1.1128
I need basic ICT skills to be able to use digital learning platforms effectively.	101	1.0	5.0	3.436	1.3222

Note. 5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree

further how participants, find the use of these digital media platforms for teaching and learning beneficial, participants were asked to indicate their level of agreement to certain statements on a five-point Likert scale. (See Table 3 above)

From Table 3, it can be seen that the participants had a mean score of 2.851 indicating their neutrality to the statement that "the use of digital media platforms for teaching and learning is as effective as traditional teaching and learning". This stand of neutrality might be as a result of participants' limited experience with the use of digital media platforms for teaching and learning. This perhaps contributed to the participants' neutral stands with a mean score of 3.030 on the next statement that stated universities should teach more courses using these platforms. However, concerning interactivity, the participants clearly expressed their disagreement with a mean score of 2.267 indicating that they do not consider online learning as interactive as the traditional face-to-face method of teaching and learning. Concerning using digital media platforms for self-directed learning, participants largely agreed to the statement with a mean score of 3.436. The Participants were, however, neutral on the issue of online learning platforms being more fun and interesting with a mean score of 3.040. With a mean score of 2.792, the participants indicated their neutrality to the statement that they will be comfortable with having their course taught online till the end of the year due to the pandemic. However, the participants largely agreed to the statement that they need basic ICT skills to be able to use digital media platforms for learning effectively with a mean score of 3.436.

The data from Table 3 reveals that these digital media platforms have the potential to be used by students to engage in self-directed learning, however, concerning receiving instructional material from teachers in the learning process students usually prefer the traditional

face-to-face learning with the teacher physically present. Therefore, to ensure increase student satisfaction with learning during the COVID19 pandemic, a blended format of online and in-person learning might be more appropriate for students than a total shift to online studies.

CONCLUSIONS AND RECOMMENDATIONS

The study sought to investigate the use of digital media platforms for continuing education during the COVID19 pandemic. It also investigated the challenges students faced with using digital platforms for learning during the pandemic and assessed the potential for using these digital or online platforms for self-directed learning among students. From the result of the survey, it can be concluded that online video conferencing platforms such as Zoom and Google Meet harness the potential for being used as mediums of instruction and as such was widely used by lecturers in the University of Cape Coast (UCC) to deliver instructional material to students during the pandemic. Social media applications such as WhatsApp and Messenger also provided avenues for delivering instructional messages to students as it was seen in the case of students at the University of Cape Coast during the pandemic and as such its importance in the education of students must not be undermined. Also, the government of Ghana, in an attempt to address the problem of limited internet access in the country, can liaise with leading educational technology companies to supply schools in the country with offline e-learning systems that can be used to complement the online digital platforms used for teaching and learning during the pandemic.

Despite the potentials harnessed by these digital platforms when it comes to online learning, they also

pose challenges for students. Though these platforms when used for teaching and learning contributes to students improving their soft skills in ICT and allowing for the use of audio-visuals in teaching and learning, the cost of securing a regular supply of internet for most of these students is a burden. Thereby, making it difficult for them to enjoy the full benefits of the online experience. Therefore, to enable students to enjoy the full benefits of online learning during this pandemic, the supply of internet connectivity to students must be prioritized. The government of Ghana must work in collaboration with the universities in the country to make provisions for students to have a stable supply of Internet but at a moderate cost to help them fully benefit from their online studies during the pandemic. Universities in Ghana including the University of Cape Coast must adopt a blended learning format where students can take some of their courses online and some in-person to help students continue their education in these perilous times. This is in line with the findings of Aboagye et al. (2020).

The potential for using digital media and online platforms for self-directed learning must not be undermined. From the results of the survey, it was realized that most students believe in the potential for using online learning platforms to achieve their self-study goals. Moodle is one such online learning platform that can be harnessed to encourage self-study skills among students. Universities can purchase this application for faculty and adapt them to be used to encourage self-directed learning among students. If these are done, university students in Ghana including those in the University of Cape Coast are sure to benefit fully from their online learning experience during this pandemic.

REFERENCES

- Aboagye E, Yawson JA, Appiah KN (2020). COVID-19 and E-learning: The challenges of students in tertiary institutions. *Social Education Research*, 1-8.
- Aliaga M, Gunderson B (2002). *Interactive statistics*. Thousand Oaks: Sage Publications.
- Basilaia G, Kvavadzee D (2020). Transition to online education in Schools during a SARS-COV-2 Coronavirus (COVID-19) pandemic in Georgia, *Pedagogical Research*, 5 (4) 2-9.
- Fouka G, Mantzourou M (2011). What are the major ethical issues in conducting research? Is there a conflict between the research ethics and the nature of nursing? *Health science journal*, 5(1), 3.
- Henaku EA (2020). COVID-19: Online learning experience of college students: The case of Ghana. *Int. J. Multidisciplinary Sci. Adv. Technol.* 1(2), 54-62.
- Hoq ZM (2020). E-learning During the period of pandemic (COVID-19) in the kingdom of Saudi Arabia: An empirical study. *Ame. J. Edu. Res.* 8 (7) 457-464.
- Owusu-Fordjour C, Koomson CK, Hanson D (2020). The impact of Covid-19 on learning: the perspective of the Ghanaian student. *Eur. J. Edu. Stud.* 7 (3), 88-101.
- Radha R, Mahalakshmi K, Kumar VS, Saravanakumar AR (2020). E-learning during lockdown of Covid-19 pandemic: A global perspective. *Int. J. Control and Auto.* 13(4), 1088-1099.
- United Nations in Ghana (2020). COVID 19: Socioeconomic impacts in Ghana. Retrieved from <https://www.unicef.org/ghana/reports/covid-19-socio-economic-impacts-ghana>.
- World Bank Education Global Practice (2020). Guidance note: Remote learning and COVID-19. Retrieved from <https://www.worldbank.org/en/topic/edutech#covidedtech>.
- World Health Organization (2020). Coronavirus disease (COVID-19) pandemic. Retrieved from <https://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/novel-coronavirus-2019-ncov>
- World Health Organization (2020). Novel Coronavirus (2019-nCoV) Situation Report – January, 2020. Retrieved from <https://www.who.int/docs/defaultsource/coronaviruse/situation-reports/20200121-sitrep-1-2019-ncov.pdf>
- Worldometer (2020). Covid-19 coronavirus pandemic. Retrieved from [https:// www.worldometers.info/coronavirus/](https://www.worldometers.info/coronavirus/)