



THE IMPACT OF COVID-19 ON LEARNING - THE PERSPECTIVE OF THE GHANAIAN STUDENT

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Abstract:

This study aimed at accessing the impact of Covid-19 on learning. The study employed a Descriptive survey design in which 11 item Likert-scale type of questionnaires was administered to 214 respondents mainly students in the second cycle and tertiary institutions of Ghana. The study employed simple random sampling technique in selecting the respondents for the study. The study revealed some challenges students encounter in the close down of schools due to the outbreak of the pandemic Covid-19. Students are unable to study effectively from the house thus, making the online system of learning very ineffective. Again, parents are incapable of assisting their wards on how to access online learning platform, neither can they entirely supervise the learning of their children at home without any complications. It came to light that the pandemic really has had a negative impact on their learning as many of them are not used to effectively learn by themselves. The e-learning platforms rolled out also poses challenge to majority of the students because of the limited access to internet and lack of the technical knowhow of these technological devices by most Ghanaian students. The study therefore recommends that students should be introduced to innovative and offline e-learning platforms to supplement classroom teaching and learning and also be of benefit to students who may not have access to internet connectivities.

Keywords: e-learning, COVID-19, pandemic, outbreak, learning, teaching

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1. Introduction

Human history has recorded a number of substantial pandemics including smallpox, cholera, plague, dengue, AIDS, influenza, severe acute respiratory syndrome (SARS), West Nile disease and tuberculosis. Influenza pandemics are erratic but recurring events that can have severe consequences on societies worldwide. Influenza pandemics have struck about three times every century since the 1500s, or roughly every 10-50 years. In the 20th century, there were 3 influenza pandemics which were named "Spanish flu" in 1918-1919, "Asian flu" in 1957-1958, and "Hong Kong flu" in 1968-1969. Each pandemic affected human life and economic development. For example, the influenza pandemic of 1918-1919, which killed more than 20 million people in the world and has been cited as the most devastating epidemic recorded in world's history (W.H.O, 2011b).

Recent years have seen at least six large-scale outbreaks-hantavirus pulmonary syndrome, severe acute respiratory syndrome, H5N1 influenza, H1N1 influenza, Middle East respiratory syndrome, and Ebola virus disease epidemic (Gostin, et al., 2016). The influenza H1N1 2009 virus (A/2009/H1N1) was the first pandemic influenza of the 21st century. It affected the whole world and caused more than 18,000 deaths (Rewar, Mirdha, & Rewar, 2015). Ebola killed more than 11,000 people and cost the world more than \$2 billion according to World Bank calculations (Maurice, 2016). Zika virus which broke out 2016 spread and threatened the health of people in 34 countries (Troncoso, 2016). These outbreaks made scientists and governments became worried about the extent of the devastation of these outbreaks on the world economy and education.

Education has been the bedrock of development of every nation; hence its sustainability is paramount to growth and development of all nations. Education over centuries have been hit with several challenges ranging from changes in school curriculum to closing down of Educational Institutions due to either a demonstration by students or staff, outbreak of a disease and/or instability in governance of a nation of which the education system in Ghana is of no exception.

Ghana's educational system has been hit with challenges such as the changes in curriculum which result in challenges in instructional materials, violent demonstration by students and an outbreak of certain disease which may/may not lead to the closure of the schools.

The Coronavirus pandemic has affected educational systems worldwide, leading to the widespread closure of schools in the affected countries. As of 28th March, 2020, over 1.7 billion learners were out of school due to schools not in session because of the pandemic. According to UNESCO monitoring, over 100 countries have implemented nationwide closure, impacting nearly 90% of the world's student population. (UNESCO, COVID-19 Educational Disruption and Response, 2020). School closure does not only affect students, teachers, and families, but have far-reaching economic and societal consequences, (Lindzon, 2020). School closures in response to COVID-19 have shed light on various social and economic issues, including student debt (Jamerson, Josh, & Joshua, 2020), digital learning (Karp & McGowan, 2020), food insecurity (Cecco, 2020) and homelessness (Ngumbi, 2020) as well as access to childcare (Belinda, 2020), health care

(Feuer, 2020), housing (Barrett, 2020), internet (Jordan, 2020) and disability services (Alex, 2020). Previous outbreaks of infectious diseases have prompted widespread school closing around the world with varying levels of effectiveness. (Simon, 2020).

During the 1918-1919 influenza pandemic in the United States, school closure and ban on public gatherings were associated with lower total mortality rates (Barnum, 2020). Cities that implemented such interventions earlier had greater delays in reaching peak mortality rates (Markel, et al., 2007). Schools were closed for a median duration of 4 weeks according to a study of 43 US cities' response to the Spanish Flu (Markel, et al., 2007). School closure were shown to reduce morbidity from the Asian flu by 90% during the 1957-58 outbreaks (Chin, Foley, Doto, Gravelle, & Weston, 1960) and up to 50% in controlling influenza in the US, 2004-2008, (Wheeler, Erhart, & Jehn, 2010).

Multiple countries successfully slowed the spread of infection through school closure during the 2009 H1N1 Flu pandemic. School closure in the city of Oita, Japan were found to have successfully decreased the number of infected students at the peak of infection; however closing schools was not found to have significantly decreased the total number of infected students (Kawano & Kakehashi, 2015). Mandatory school closure and other social distancing measures were associated with a 29% to 37% reduction in influenza transmission rates. Early school closure in the United States delayed the peak of the 2009 H1N1 Flu pandemic (Simon, 2020). Despite the overall success of closing schools, a study of school closures in Michigan found that "*district level reactive school closures were ineffective*" (Davis, et al., 2015). During the swine flu outbreak in 2009 in the UK, in an article titled "Closure of schools during an influenza pandemic" published in the Lancet Infectious Diseases, a group of epidemiologists endorsed the closure of schools in order to interrupt the course of the infection, slow further spread and buy time to research and produce a vaccine.

Several disease outbreaks have hit the world within the past two decades of which have had impact on the world's economy and education to some extent. The World Health Organization (WHO) used the term 2019 novel coronavirus (2019-nCoV) to refer to the coronavirus that was diagnosed from the lower respiratory tract of patients with pneumonia in Wuhan, China on 29 December, 2019 (Li, et al., 2020). It was reported that the human infection of the virus originated from the local Huanan South China Seafood Market in Wuhan, Hubei Province, China (Zhu, et al., 2020).

On 26th January, 2020, China instituted measures to contain the COVID-19 outbreak which included extending the Spring Festival holiday to contain the outbreak. Universities and schools around the country were closed (Hong, 2020). Iran's Ministry of Health announced the closure of universities, higher educational institutions and schools in several cities and provinces on the 23rd February, 2020 to enable it contain the spread of the virus and its mortality (Farda, 2020).

On 3rd March, 2020, UNESCO released the first global numbers on school closure and affected students. It reported that 13 countries had enacted preventive measures including the temporary closure of schools and universities, impacting 290.5 million students around the world. In reaction, UNESCO called on countries to support affected students and families and facilitate large-scale inclusive distance learning programs.

The Italian government ordered the full closure of all schools and universities nationwide on the 4th of March, 2020 as Italy reached 100 deaths (Palermo, Tondo, & Beaumont, 2020). In doing so, Italy became one of 22 countries on three continents which had announced or implemented school closure (UNESCO, 2020). By 5th March, 2020, the majority of learners affected by COVID-19 emergency measures were located in China, with 233 million learners affected, followed by Japan at 16.5 million and Iran at 14.5 million (UN, 2020).

By 10 March, one in five students worldwide was "*staying away from school due to the COVID-19 crisis while another one in four was barred from higher education institutions*" (UNESCO, 2020). On 13th March, 2020, governments in 49 countries announced or implemented school closure, including 39 countries which closed schools nationwide and 22 countries with localised school closure (UNESCO, 2020).

By 16th March, 2020, this figure increased from 49 to 73 countries according to UNESCO of which Ghana was part of the countries that closed down schools on the said date (UNESCO, 2020). 50% of students worldwide were affected by school closure as at 19th March, 2020, to enable the world to contain the virus and minimise its spread, corresponding to nationwide closures in 102 countries and local closures in 11 countries affecting 850 million students (UNESCO, 2020).

By 20th March, 2020, over 70% of the world's learners were impacted by closure, with 124 country-wide school closure (UNESCO, 2020). On 23rd March, all Nigerian school were found to have been closed down by Nigerian government, markets as well as companies were closed down and children were forbidden by parents to step out of their homes.

On 26th March, 2020, all New Zealand schools and universities have been closed down across the country (Government of New Zealand, 2020). The government has imposed a two-week holiday, allowing schools to transition to forms of distant teaching as soon as possible (Government of New Zealand, 2020). Universities have closed for one week, but resumed with online teaching afterwards (RNZ, 2020). Other school services remain open, but teaching is restricted to distant learning (RNZ, 2020). Until April 6, holidays were extended in all secondary schools of Turkmenistan. An order signed by the Ministry of Education as a preventative measure aimed to prevent the spread of respiratory diseases in connection with the WHO coronavirus pandemic (Guardian Staff, 2020). 10 countries have localised schools' closures. UNESCO estimates 473,933,356 learners are potentially at risk (pre-primary to upper-secondary education) and 77,938,904 learners are potentially at risk in tertiary education (UNESCO, 2020).

Although most countries have closed down schools to enable them to contain the spread of the virus, some countries such as Honduras and Romania also have left their education open to access. Countries like Japan are on spring break hence closure is not as a result of the Coronavirus pandemic.

School closures in response to the COVID-19 pandemic have shed a light on numerous issues affecting access to education, as well as broader socio-economic issues (UNESCO, 2020). As of March 12, 2020, more than 370 million children and youth are not attending school because of temporary or indefinite country wide school closure

mandated by governments in an attempt to slow the spread of COVID-19 (Goldberg, 2020). As of 29th March, 2020, nearly 90% of the world's learners were impacted by closures (UNESCO, 2020).

Even when school closure is temporary, it carries high social and economic costs as well as disrupts learning among students. The disruptions they cause affect people across communities, but their impact is more severe for disadvantaged children and their families including interrupted learning, compromised nutrition, childcare problems and consequent economic cost to families who cannot work (UNESCO, 2020). Working parents are more likely to miss work when schools close in order to take care of their children, incurring wage loss in many instances and negatively impacting productivity (UNESCO, 2020). Localised school closures place burdens on schools as parents and officials redirect children to schools that are open (UNESCO, 2020).

As of 16th April 2020, 09:30GMT, there are 2,091,279 Coronavirus cases, with 135,229 deaths while 516,693 has been recovered. USA now lead in terms of cases (644,348) and deaths (28,554). The World Health Organization (WHO) minute by minute can be found on (<https://www.worldometers.info/coronavirus/>).

Ghana recorded its first imported case on 11th March, 2020. The cases started increasing after a week leading to the President of the Republic among several interventions closing down schools for first and second cycles as well as tertiary institutions on the 16th of March, 2020.

This directive from the President to close down all institutions was welcomed by parents and other stakeholders of education as a good measure to prevent the students from contracting the virus. However, it has been met with some challenges of its own among the student populace. This study however investigates the challenges of the coronavirus on Ghana's educational system with emphasis on the challenges to students in terms of learning. The main aim of this study is to examine the challenges faced by students as schools are closed down to tuition. This will help to suggest ways of mitigating such challenges in our educational system in subsequent outbreaks.

2. Methodology

This study employed the descriptive survey design using the quantitative research approach. The study was carried out in Ghana, West Africa, with an estimated population of about 30 million according to the 2010 population census (GSS, 2010). The researcher sampled students from the second cycle and the tertiary institutions since they are the most affected by the closure of schools. The researcher employed online survey to reach to the respondents since the outbreak did not permit physical contact of individuals.

2.1 Sample Size and Sampling Technique

The researcher employed the use of simple random sampling to select the sample for study. A total sample size was made up of 250 students from second cycle and tertiary institutions. Cohen, Manion, & Morrison (2008), to assert that simple random sampling

enables researchers to ensure that all participants (students) had equal chances of being selected for the study.

2.2 Research Instruments

Structured questionnaire was constructed and used as the research instruments for collecting the data. The questionnaire was made up of close-ended items for the students to respond to. Close-ended questions according to Cohen, Manion and Morrison (2008) are quick to compile and straight forward to code, and do not discriminate unduly on the basis of how articulate the respondents are. The four likert-type scale ranged from “Strongly agree” (SA), “Agree” (A), “Disagree” (D) to “Strongly Disagree” (SD). According to Ary, Jacobs, & Razavieh (2002), the likert scale is one of the most widely used techniques to measure for descriptive survey studies.

2.3 Data Collection Procedure

The researcher used google forms to design the questionnaire and administered it via email and social media platforms to get the responses from the target group. The researcher therefore used a simple random sampling technique to administer the study questionnaire to selected individuals after the purpose of the study was explained to them and the confidentiality assured.

3. Results

Two hundred and fourteen (214) students from second cycle and tertiary institutions were sampled for the study using an online survey technique. The online survey technique was used for the data collection due to the social distancing precautionary measures outlined by the World Health Organisation (WHO) as a means of containing the spread of the virus from person to person. The distribution according to level of education has been presented in the figure below:

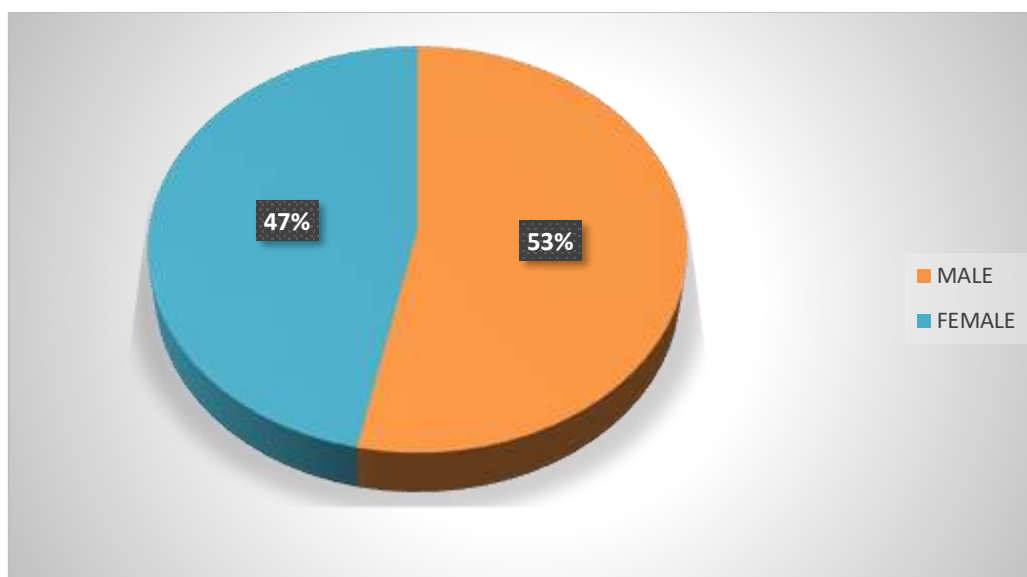


Figure 1: Gender of Respondents

From the Figure 1 above, 53% of the respondents were males while 47% were females. This is to say that males are abreast with technology than females.

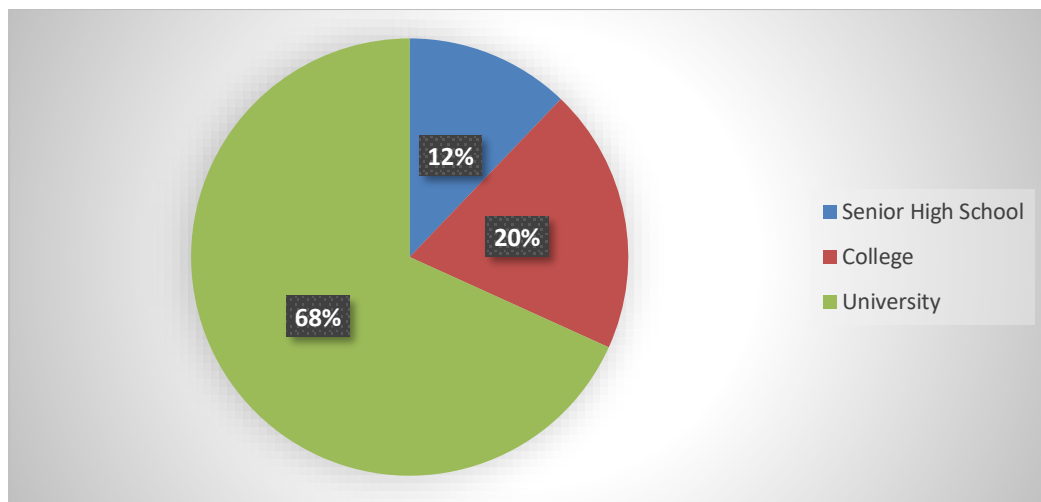


Figure 2: Respondents Level of Education

From the figure above, 68% of the respondents were university students, 20% in colleges while 12% were in the senior high schools. This is an indication that university students are more familiar with technologies in education than their counterparts in Colleges and the Senior High Schools since other level of education, students are introduced to self-learning and research using internet facilities. Again, since research work is more common in the Universities as compared to the Colleges and Senior High Schools, students there have much knowledge about the use of the internet than their counterparts in other level of education.

This table presents the challenges students are facing during the close down of schools due to the Covid-19 pandemic.

Table 1: Challenges Faced during School Lockdown

Premise	SA F %	A F %	D F %	SD F %
I am able to study effectively from the house	22 10.3	18 8.4	66 30.8	108 50.5
Learning alone makes it difficult to get explanation of some concepts	102 47.7	36 16.8	36 16.8	40 18.7
There is internet access in my locality to enable me learn on my phone or laptop	46 21.5	32 15.0	30 14.0	106 49.5
The online system of learning is very effective and will help many students	30 14.0	26 12.1	40 18.7	118 55.1
Having contacts with teachers enable them to explain concepts better to my understanding	118 55.1	24 11.2	28 13.1	44 20.6
I have better ICT skills to be able to access other online learning platform	60 28.0	34 15.9	32 15.0	88 41.1
I am aware of online learning platform launched by the Ministry of Education	104 48.6	44 20.6	18 8.4	48 22.4
Our teachers gave us orientation on the use of e-learning	24	32	34	124

Platforms prior to the school closedown	11.2	15.0	15.9	57.9
My parents can teach me how to use the internet at home to learn	18 8.4	06 2.8	18 8.4	172 80.4
My parents supervise my learning at home without any difficulty	18 8.4	20 9.3	24 11.2	152 71.0
I have a private teacher who visits to teach me even when the school is closed down.	8 3.7	10 4.7	20 9.3	176 82.2
I do not have adequate learning resources in the house to aid my learning	122 57.0	40 18.7	20 9.5	32 14.9

Key: A=agree; SA= Strongly Agree; SD = Strongly Disagree; D=Disagree.

From the table, 40 (18.7%) of the respondents agreed of being able to learn effectively in the house while 174 (81.3%) respondents disagreed to that statement. Again, in respect to getting to understand when having individual studies in the house, 138 (64.5%) respondents agreed that getting understanding of concepts during individual studies is challenging as compared to learning in groups and with the teacher around. However, 76 (35.5%) respondents disagreed. Also 78 (36.4%) respondents gave an affirmative answer to the statement that they have internet access in their locality to enable them undertake online learning while 136 (63.6%) respondents disagreed to the statement. 56 (26.2%) of the respondents agreed that the online system of learning is very effective, thus will help many students while 158 (73.8%) disagreed owing to the inaccessibility of internet by many Ghanaian students.

On the understanding of concepts, 142 (66.4%) of the respondents agreed that having contact with the teacher will promote learning and enhance understanding of concepts. 94 (43.9%) agreed to have had a better skills in ICT to be able to utilise an online learning platform while 120 (56.1%) disagreed. 148 (69.2%) of the respondents agreed of knowing about the online learning platform rolled out in the midst of the pandemic while 66 (30.8%) declined to have any knowledge about it. 56 (26.2%) responded to have received orientation from their teachers hence are able to utilise the online learning platform being rolled out but 158 (73.8%) respondents disagreed to having received an orientation from their teachers before the school closedown.

On parent support on home learning, 24 (11.2%) of the respondents agreed that their parents can teach them how to use the internet to study effectively at home while majority of them 190 (88.9%) disagreed. Again, 38 (17.8) respondents agreed that their parents supervise their learning at home while 176 (82.2%) disagreed to getting parental support during learning at home. 18 (8.4%) of the respondents responded positively to having a private/personal teacher at home who comes to teach them even during this period when schools are closed to the pandemic while 196 (91.6%) responded negatively to the statement. 162 (77.6%) respondents agreed that they do not have adequate learning resources to support self-learning in the house in these times while 52 (22.4%) agreed to having adequate resources to enable them learn effectively in the house.

4. Discussion

Many countries have successfully slowed down the spread of the coronavirus taking drastic measures which included banning public gatherings and closing down of schools till further notice. Although school closure is an effective way of minimising the spread of the virus, it has come with its own challenges especially in developing countries such as Ghana.

Learning alone in the house has been proven to be very ineffective as the learner may have many distractors at their disposal which may impede learning and understanding. Many homes in developing countries do not provide adequate learning environment hence students are therefore obliged to learn either in the living room or their bedrooms which is very ineffective as stated by the respondents. Again, it is said that teaching occurs when a more knowledgeable person passes on knowledge to a less knowledgeable individual in order to induce a relatively permanent change in behaviour (Lantolf, 2008; Bateman & Waters, 2013; Greenberg, 2005). The aspect of the more knowledgeable person is missing when one is learning alone in the house especially with concepts, they are not familiar with and may need explanation from the teacher or other colleagues to enhance their understanding.

In the midst of pandemic where students stay out of school, majority of learning institutions resort to e-learning which substitute the normal contact with the teacher in a physical classroom to a virtual classroom via the use of the internet and technological devices such as the phone, computer and tablets. The study revealed that majority of households in Ghana do not have internet access which had led to an online learning platform rolled out by the Ministry of Education in Ghana being suspended because majority of the students do not have access to internet. Those who have access to the internet also complain of high cost of data bundle to fully access this service and enhance their learning while home. Some of the respondents asserted to the fact that the online learning rolled out by the Ministry as well as some schools is very effective but the accessibility has been the issue since you will need technological devices such as the smart phones or the computer and the internet to be able to access it. This has made learning in the house during this pandemic very challenging to them.

It is also said that learning is effectively achieved when the right instructional materials are used for the right purpose during the process. It is undoubtedly true that most households in Ghana do not have learning resources to aid their children from learning and even if it is available, they are inadequate to instil learning. This has made learning of some concepts especially those perceived to be abstract very difficult for the students in this period of lockdown and school closure. The constructivist posits that learning is highly achieved when students are made to interact with instructional materials and draw their own meaning from their interaction (McLeod, 2019; Applefield, Huber, & Moallem, 2000). Also, Aguisiobo (1998), expressed that learning is an activity that take place in a contact and not in a vacuum. He reiterated that students with teaching aids do not have a blank mind but a consolidated and developed library of knowledge. Again, scaffolding is a key feature of effective teaching, where the adult continually

adjusts the level of his or her help in response to the learner's level of performance. In the classroom, scaffolding can include modelling a skill, providing hints or cues, and adapting material or activity (Copple & Bredekamp, 2009). These aspects will be missing in this time of the pandemic although students will learn but getting the right explanation will be a challenge to them especially with the new concepts.

Parental support to student learning has always been minimal especially with working parents. This was reported in this study as poor parental support to learning in the house. Respondents made it clear that with respect to e-learning platforms, most of their parents have little or no knowledge about the use of the internet in learning and even those that do, do not supervise their children learning. It is said that students learn well when they are supervised and guided (Okendu, 2012). Most parents think having the textbooks of the various subjects being studied in schools are enough to sustain learning in the house which of course is not the case.

According to García and Thornton (2014), current research shows that the involvement of family in learning helps to improve student performance, reduce absenteeism and restore parents' confidence in their children's education. Learners with parents or caregivers, who are involved in learners' education, earn higher grades and test scores, have better social skills and show improved behaviour. Parent-teacher partnership makes tremendous impact on children's education. According to Llamas and Tuazon (2016), parents become comfortable when the education system requires their involvement in school activities. Seeing parents involved in the education of their children is a good thing because it improves academic performance. Learners become more focused in their school work (Kwatubana & Makhalemele, 2015).

The study also found out that certain measures can be put in place to mitigate the occurrence of such situations in the future. Respondents were of the view that children of school going age should be introduced to the used of e-learning platforms to supplement the classroom instructions especially when they are in the house and want to get understanding of certain concepts from a teacher or any resource person. Again, the study found out that training on instructional technologies must be given to teachers at least once a year to update them on the demands on the new and emerging teaching technologies and how they are used.

5. Conclusion

In the wake of the worldwide pandemic, covid-19, most of the world's institutions have been affected ranging from economy, industries, religion and education among others. This study examined the effect of the covid-19 pandemic on learning among Ghanaian students. It came to light that the pandemic really has had a negative impact on their learning as many of them are not used to effectively learning by themselves. The e-learning platforms rolled out also posed challenge to majority of the students because of the limited access to internet and lack of the technical knowhow of these technological devices by most Ghanaian students. The study therefore recommends that students and teachers alike be introduced to e-learning platforms and how to effectively use it for

instructional practice in the wake of such challenges in our educational system. The outcome of this study will go a long way in helping policy makers to come out with a lasting policy to address challenges faced by students when they are home for their normal semester break or during a pandemic of this nature.

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