

“E-Learning is Fascinating but Unaffordable”: Experiences and Coping Strategies of Poor Students at Selected Public Universities in Ghana During Covid-19 Pandemic

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Abstract:

Background: *E-learning has received intense interest from policy and scholarly practitioners in recent times in the wake of the Corona Virus pandemic (Covid-19) and this has boosted interest in e-learning. Although e-learning is widely studied, conspicuously missing from the literature is the perspective of how poor students at public universities coped during Covid-19. Thus, the purpose of this study was to empirically examine the experiences and coping strategies of poor university students in relation to the use of e-learning in public universities in Ghana during Covid-19.*

Materials and Methods *The qualitative approach, specifically a case study research design was employed to examine the experiences and coping strategies of poor university students in relation to the use of e-learning in public universities in Ghana during Covid-19. While the semi-structured interview was employed to collect data, the thematic analysis method was used to analyze the data.*

Results: *The findings indicated that poor students had bitter experiences in relation to e-learning, which was occasioned by non-ownership of computers/laptops, exorbitant cost and frailty of internet networks. In terms of coping strategies, while some students relied on the benevolence of family/friends to participate in learning process; other students either stayed in cities or commuted to nearby places where they could access the internet to participate in online learning. The article concludes by recommending that the government should institute a policy of ‘one laptop per poor university student’.*

Key Words: *E-learning, Coronavirus Pandemic, Ghana, Poor Students, Public Universities.*

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I. Introduction

Over the past few years, e-learning, defined as the process of learning via digital resources, has increasingly gained recognition across the globe and this undoubtedly has attracted immense scholarly interest and debates (Khan & Ally, 2015; Liguori & Winkler, 2020; Marinoni, Van't Land & Jensen, 2020; Moore, Dickson-Deane & Galyen, 2010; Nicholson, 2007; Sarpong, 2022). Although debates on e-learning have been ongoing, the emergence of COVID -19 accelerated and fostered keen interest in the subject (Dhawan, 2020; Khalaf & Salha, 2020; Khan et al., 2021; Li & Lalani, 2020; Munoz-Najar et al., 2021; Sintema, 2020; Zhou et al., 2020).

The rationale for deploying e-learning is well underscored (Dhawan, 2020; Moore & Kearsley, 2011). For instance, easy accessibility, affordability, flexibility and opportunity for life-long learning are but a few of the key arguments proffered (Littlefield, 2018; Kim & Bonk, 2006). However, one important rationale for employing e-learning in the wake of COVID-19 was the view that e-learning served as a measure to curb the spread of COVID-19 among students, tutors and educational administrators. As Dhawan (2020, p. 5) notes that “[t]he severe explosion in Corona Virus disease can make us add one more argument in terms of online learning, that is, online learning serves as a panacea in the time of crisis”.

In fact, one of the essential fascinating opportunities COVID-19 engendered was increased integration of e-learning, which has become the ‘new normality’ (Bogoslov & Lungu, 2020). Accordingly, e-learning as a complement to face-to-face teaching and learning is established, and would never be rolled back even after COVID-19.

Statement of the Problem

Although at the peak of the pandemic schools were closed, teaching and learning continued, albeit not in the traditionally face-to-face mode of learning. Every nation frantically instituted varied forms of online teaching and learning to engage students at all stages. For instance, in China “schools [were] out, but class [were] on”, Zhou et al. (2020, p. 1) contended. In Zambia, a national e-learning portal was created to facilitate the delivery of lessons (Sintema, 2020). In the same vein, e-learning platforms were instituted in Ghana to ensure continuity of teaching and learning across board (Dome & Armah-Attoh, 2020).

At the higher institutions of learning, where e-learning has been in use albeit at a limited rate, its deployment was enhanced. Almost every tertiary institution in Ghana transitioned to e-learning platforms, which demanded students also follow suit. Globally, in the pre-COVID-19 era, many studies explored e-learning (Basak, Wotto & Belanger, 2018; McBrien, Cheng & Jones, 2009; Nagy, 2005; Nawas & Khan, 2012; OECD, 2001). During COVID-19, the pace of studies about e-learning accelerated (Asare, Truong & Sarpong, 2021; Affouneh, Salha & Khalaf, 2020; Badrul, 2021; Singh & Nair, 2021; Singh & Thurman, 2019; Rieley, 2020; Dhawan, 2020).

Likewise, in Ghana, scholarly studies on e-learning are burgeoning (Aboagye, Yawson & Appiah, 2020; Adarkwah, 2021; Agormedah et al., 2020; Asunka, 2008; Broderick, 2020; Dome & Armah-Attoh, 2020; Keelson, Mensah & Nanekum, 2022; Kotoua, Ilkan & Kilic, 2015; Sarpong et al., 2022). However, conspicuously missing in the literature is the perspective of coping strategies students from low-income backgrounds adopted to wade through the e-learning system hurriedly instituted.

Against this backdrop, this study contributes to the debate on e-learning by exploring the experiences and coping strategies of poor students in public universities in Ghana at the height of COVID-19. The remainder of the article is structured as follows: Section two focuses on the methods and processes employed to conduct the study. while section three presents the result of the study, section four concludes the study.

Literature Review

This section defined and explained the key concepts employed in the study. It also reviewed relevant literature germane to this study.

E-learning

E-learning is referred to several names, including ‘Remote Learning, Web-Based Learning, Web-Based Instruction, Web-Based Training, Internet-Based Training, Distributed Learning (DL), Advanced Distributed Learning (ADL), Distance Learning (DL), Online Learning (OL), Mobile Learning, m-learning or Nomadic Learning’ (Khan, 2021, p. 1), and like many social science concepts has no single universally consented definition (Basak, 2018; Singh & Thurman, 2019). It evolved differently from different disciplines. Nicholson (2007, p.1) argues that e-learning has “... evolved in different ways in Business, Education, the Training sector, and the Military ... and currently means different things to different sectors...”

In this light, e-learning has been defined in several ways. It has been defined as the use of a computer network, primary over or through the internet, to deliver information and instructions to individuals (Wang et al., 2010). According to Tittasiri (2003), e-learning embodies a wide repertoire of applications and processes, including multimedia online activities such as the web, internet video SD-ROM, TV and radio. For DeRouin et al. (2005) [cited in Basak et al., 2018, pp.196-197] e-learning ‘is a wide set of application and processes, such as web-based learning, computer-based learning, virtual classrooms and digital collaboration.

It includes the delivery of content via the internet, intranet/extranet (LAN/WAN), audio and video tapes, satellite broadcast, interactive TV, and CD-ROM’. In an elaborate fashion, Khan (2005, p. 3) asserted: E-learning can be viewed as an innovative approach for delivering a well-designed, learner-centered, interactive and facilitated learning environment to anyone, anyplace and anytime by utilizing the attributes and resources of various digital technologies along with other forms of learning materials suited for open, flexible and distributed learning environment.

This study adopted the later definition for two reasons. First, it captures almost all the modes used in e-learning. Second, the definition enumerates all e-learning techniques higher educational institutions employed to educate students.

Conceptualizing Poor Student

Poverty is a well-researched issue that has engendered a large body of literature (Collier, 2007; Arndt, McKay & Tarp, 2016; Sachs, 2005; World Bank, 2010). The literature is abounded with numerous definitions depending on the context. Interestingly, definitions of poverty continually shift from time to time. Poverty, initially seen as a unidimensional phenomenon (measured by consumption and income), has now been generally accepted to be a multidimensional phenomenon covering multiple deprivations in areas such as education, health, and living standards (Alkire & Santos, 2010; UNDP, 1997, 2010; World Bank, 2001, 2010).

Notwithstanding this, primarily, poverty can be defined as the inability of a person to afford basic necessities to lead a decent life including food, clothing and shelter (UNDP, 1997, 2010). Poverty is categorized into absolute and relative (World Bank, 2010). While a person unable to afford his/her basic necessities may be termed absolute poor, a person who can afford life's basic necessities but is unable to afford trendy things pertaining to the person's immediate environment is a relatively poor person (Wan, Hu & Liu, 2021).

Consequently, in this study, the poor student is described as a student who has no computer or laptop to assist him/her in learning. This is in view of the reality that the computer appears to be the kingpin around which e-learning revolves. In the university setting, the computer/laptop has become a 'must have' gadget every student has to possess. Thus, the inability to possess a computer/laptop at the university level implies the student is less endowed and therefore considered relatively poor.

Theoretical Framework-Theory of Adaption

The study is anchored on the theory of adaptation, which can be traced to Charles Darwin's seminal work on evolution. The theory is a multifaceted framework that originated from the natural sciences but has gained prominence in social sciences disciplines including literature, sociology, psychology, media studies and education. Girded in the idea of adjustment and change, adaptation theory seeks to understand how organisms, systems or cultural entities modify themselves to thrive in an evolving environment.

As observed, the foundational idea of adaptation as a mechanism for survival in adversity laid the groundwork for the development of adaptation theory in various academic fields including education (Gardner, 2017). Adaptation theory has been applied in educational studies (Cook, 2012; Wang, et al., 2018; Zhou, 2008). Wang et al. (2018) employed adaptation theory to study how international students in the United States of America were able to cope with new environments.

In the same vein, the theory is employed in this study to serve as an anchor to explain how vulnerable students cope with teaching and learning that transitioned from face-to-face to e-learning platforms during COVID-19.

Global and Ghana studies on e-learning

Globally, e-learning has received impressive attention in the wake of COVID-19 when face-to-face teaching and learning were constricted and this engendered a large swathe of literature, which explored several tangents as far as education and e-learning are concerned (Affouneh, Salha & Khalaif, 2020; Badrul, 2021; Aisha & Ratra, 2022; Asare, Truong & Sarpong, 2021; Jindal & Chahal, 2018; Carrillo & Flores, 2020; Singh & Nair, 2021; König, Jäger-Biela & Glutsch, (2020). In particular, the literature focused on how e-learning presented opportunities and challenges in education (Aisha & Ratra, 2022; Jindal & Chahal, 2018).

One notable opportunity is e-learning has been added to the repertoire of teaching and learning strategies complementing face-to-face teaching and learning. Challenges such as poor e-learning teaching and learning infrastructure, limited resources to students and frailty in the educational system, especially in the educational systems of developing countries were exposed. In terms of students, studies also have underscored how students from low-income backgrounds were challenged and most often were excluded (Khawar et al., 2021; Xia, 2022) from participating in e-learning.

Another significant dimension explored in the literature includes the effects and impacts of e-learning on students. Ma et al. (2021) in a study looked at the impact of COVID-19 on education and mental health of school children. In Pakistan, Khawar et al. (2021) have found prevalence of depression, stress and anxiety among students of Pakistan in they shifted to e-learning during the Covid-19. In Ghana, the beginning of e-learning is strongly intertwined with the commencement of distance education by universities in the early 2000s (Kotoua, Ilkan & Kilic, 2015; Tagoe, 2012).

It all began when major universities in Ghana rolled out programmes for persons unable to enroll in the regular school programmes but had the need to upgrade themselves. E-learning got a boost and wide attention when the government of Ghana initiated a programme dubbed 'The President's Special Initiative on Distance Learning (PSI-DL)' (Kotoua, Ilkan & Kilic, 2015; Sarpong et al., 2022). The PSI-DL provided lessons for students at the pre-tertiary level. Lessons were broadcast via three (3) major channels: television, radio and the internet.

It is worth mentioning that in Sub-Saharan Africa, Ghana is one of the pioneers in e-learning (Dome & Armah-Attoh, 2020; Kotoua, Ilkan & Kilic, 2015) with an appreciable rate of application of e-learning relative to its peers. More recently, the emergence of COVID-19 has further increased usage of e-learning. For instance, between 2014 and 2016 e-learning enrollment leapfrogged by 39.4%. Also in 2013, while only about 45, 000 students studied via e-learning in various universities in Ghana, almost half of all university enrollment were e-learning option students in recent times (Broderick, 2020).

The literature on e-learning is growing rapidly (Agbe & Sefa-Nyarko, 2020; Adarkwah, 2020; Antwi, Bansah & Franklin, 2018; Addah, Kpebu & Kwapong, 2012). Just like across the globe, in which COVID-19

inspired a refocus on e-learning, there are many e-learning studies on e-learning with Ghana as the context. Studies have explored students' perceptions of online learning (Sarpong et al., 2022; Keelson et al., 2022). Sarpong et al. (2022) argue that university students' perceptions of e-learning are unencouraging.

This view is caused by the stiff challenges students encountered in the use of e-learning. Keelson et al. (2022) on the other hand, explored students' perceptions of the quality of online learning. The results, just like Sarpong et al. (2022) observations, also revealed that students express no good perception about e-learning. Although students accept e-learning as an alternative to conventional teaching and learning, they however, are not enthused about it.

Maybe this could be attributed to the difficulty associated with access to online platforms for lessons and learning. Tanye (2017) focuses on the policy regime of e-learning in Ghana. The study intimates that governments express the willingness to support e-learning in higher institutions of learning. “However, there is a gap in the e-learning practice in Ghana. A well-structured e-learning system with a supervisory role of government and support system from university management is little to none” (Tanye, 2017, p. 1).

In addition, Kotoua et al. (2015) reveal how Ghana was ahead of its peers within Sub-Saharan Africa (SSA) with regard to e-learning. All the public universities seized the opportunities technological advancement presented to roll out e-learning programmes. In a policy brief, issued by the AfroBarometer, concerns about accessibility and the number of students that could access virtually platforms were raised (Dome & Armah-Attoh, 2020). In view this, students prefer face-to-face teaching to online because students harbour negative perceptions of e-learning.

II. Methods

Research Approach and Design

This study adopted a qualitative approach. This approach was employed because the study intended to elicit in-depth information and to proffer a detailed description of the lived experiences of poor university students with respect to e-learning during COVID-19 (O’Leavy, 2017). Hence, the research design employed is a multiple case study design (Yin, 2003). Three public universities including the University of Ghana-Legon, Accra; Kwame Nkumah University of Science and Technology-KNUST, Kumasi; and The University for Development Studies-UDS, Tamale, were selected.

These universities were selected based on the geographical locations of the institutions. While the University of Ghana is located in the southern part of Ghana, Kwame Nkumah University of Science and Technology and the University Development Studies are located in the middle and northern parts of Ghana respectively.

Population, Sample Size and Sampling Procedure

Fifteen (15) students from low-income backgrounds from three public universities were purposively selected for the study. This is in view of the fact that the focus of the study was on how poor university students coped during the COVID-19 pandemic. The selected students matched the inclusion criterion of being a student from a low-income background, who applied to access the needy support in the various schools. In determining sample size in qualitative studies, experts have agreed that any number between one and thirty sufficed (Creswell and Creswell, 2018, p. 262).

Accordingly, the study recruited 15 participants, five students each from the three universities. The purposive sampling method of data selection was applied in the selection of the participants (Creswell & Creswell, 2018). ‘In many cases purpose sampling is used in order to access ‘knowledgeable people’, i.e. those who have in-depth knowledge about particular issues, maybe by virtue of their professional role, power, access to networks, expertise or experience’ (Cohen, Manion & Morrison, 2016, p. 219). In this paper, the purposive sampling technique was used in order to select students who have lived and experienced e-learning.

Data Collection Tools

The study relied on both primary and secondary data. As regards the primary data, the study elicited information from students from low-income backgrounds using semi-structured face-to-face interviews. The face-to-face interview was chosen for several reasons. First, it proffered participants the opportunity to give ‘thick descriptions’ of their lived experiences as far as e-learning was concerned during the peak of COVID-19. Second, the face-to-face interview also provided an opportunity for the researcher and participants to meet in person.

This not only set participants at ease, but also allayed their fears and misconceptions that they could have harboured. Third, the researcher took this opportunity to explain the objective of the study. Lastly, the interactions led to the establishment of rapport with the participants. Some of the questions posted were: were you exposed to online learning before COVID -19? What online platform did your institution roll out? Without

a laptop, how did you cope with doing assignments and examinations that you were required to undertake online?.

The primary data was complemented with some secondary data accessed from journals including: The Journal of Continuing Higher Education, Journal of Educational Technology & Online Learning and SAGE Journal. Reports such as the AfroBarometer report on internet usage in Ghana, UNICEF and world reports on ICT and infrastructure were also consulted.

Data Analyses

The thematic data analysis processes were applied. The audio-taped interviews were transcribed verbatim. After which the transcriptions were then painstakingly perused several times to ensure the transcriptions not only accurately captured participants views but also made sense of the data (Maxwell, 2005; Crewswell & Creswell, 2018). The researcher then applied the thematic data analysis presented by Braun and Clarke (2006); which includes: 1) familiarization; 2) initial coding; 3) searching for themes; 4) critically reviewing the theme; 5) defining the themes and 6) producing the study.

Ethical Considerations

The study adhered strictly to research ethical precepts. First, the purpose of the study was verbally explained to the participants, after which consent of participants were sought to participate in the study. Participants were also informed that participation was voluntary and they could exit any time without having to provide any reason and without any consequence. Second, in the process of data collection participants were assigned pseudo names to conceal their identities in line with the principles of anonymity.

Third, consent and approval were sought from the participants to tape-record the interaction between the research and the participants. Lastly, participants were informed that they would not be supplied with the results of the study since it was meant for an academic study

III. Results And Discussion

The demographic characteristics of the participants are as follows. In terms of age, participants aged between 19 and 28. For gender, 10 were males and 5 were females. The study strived to achieve some sort of gender balance, however it never materialized because most females contact declined to participate in the study. As regards the programme of study at the university, more than half (9) were in the Humanities and Social Sciences. The remaining six (6) were science students.

With regard to their economic status, they all identified as needy students (poor students). These students were included because they fall into the category poor students who had experienced e-learning during the COVID-19. The next section presents the findings.

Online Platform for Lecturer-Student Interaction at the Peak of COVID-19

It is no doubt that institutions of higher learning across the globe shifted mode of delivering lectures from face-to-face style to virtual mode of teaching (Sarpong et al., 2022; Khan, 2021) in which students were required to join online classrooms at stipulated times to participate in lectures. Likewise, in Ghana, public universities deployed online platforms to ensure continuity of teaching and instructions (Dome & Armah-Attoh, 2020). The cancellation of face-to-face lecture delivery and the subsequent deployment of online platforms were directives from the Government of Ghana through the Ghana Tertiary Education Commission (GTEC- the body responsible for tertiary education in Ghana).

GTEC directed all tertiary institutions to use a blend of limited face-to-face lecture delivery and online platforms. Classes with huge numbers were required to divide the classes into between 50 and 100 cohorts to allow for limited face-to-face lecture with social distancing. Lecturers were directed to alternate lectures among the groups. The findings concurred that indeed all public universities instituted some online learning platform for interaction between lecturers and students.

With regard to the platforms for interactions between students and lecturers, some responses elicited included:

“Our lecturers connected with us through zoom and that was where lectures was [sic] taking place” it looked (Mary, interview, September 8, 2022). “Most of the lectures were done on the zoom app. Some lecturers too prepared [PowerPoint] slides and shared them through WhatsApp for us to download. With this we are on our own” [sic] (Mada, interview, September 4, 2022).

The zoom emerged as the widely deployed tool for lecturers. WhatsApp was equally popular. On this, assignments and tasks for students as well slides were shared on WhatsApp. These responses are in tandem with other studies (Agormedah et al., 2020; Agbe & Sefa-Nyarko, 2019; Tsevi, 2021). Agormedah et al. (2020) in their study opined that students were exposed to tools including Google Meet, Zoom, Whatsapp, SAKAI, and Blackboard. Interestingly, participating effectively involved the possession of either a computer and/or well-advanced mobile phone capable of performing tasks similar to the computer.

In either of the two, the internet is the primary element to enable access to the online system. The use of these tools is no outlier as the same tools were adopted in other jurisdictions (Kotoua et al., 2015). The deployment of these various means ensured lecturers interacted with learners. However, on the part of students, access challenges cropped up.

Poor Students’ Participation in e-learning COVID-19 Prior

As regards the learning experience of students in terms of online learning before COVID-19, the findings suggest that most of these students had no prior online learning encounters.

“I’ve never participated in any e-learning before [COVID-19]. But I used to use the school’ internet pool to search for reading material for my courses. But the COVID-19 has opened my eye to e-learning” (Fathu, interview, September 17, 2022). Another student intimated that “I used to hear e-learning; I had no iota of idea of what it meant. But when COVID-19 occurred, we were required to switch to online” (Abida, interview, September 15, 2022). “I had no previous experience of online learning. I used to think that online learning was applicable to persons who are based in Ghana but learning in universities outside the country [Ghana]. I had heard of people using online classrooms, but I had never experienced it” recounted Papa (interview, September 15, 2022).

Understandably, the responses are unsurprising because these are students who have limited exposure to technology in spite of the fact that they are tertiary students. This confirms UNICEF (2019) and World Bank’s (2020) reports that digital penetration is modest in Ghana. Households’ possession of computers/laptops and access to the internet is less than 30% in urban centres and little above 8% in rural areas. This study corroborates with several other studies (Scheerder & van Deursen, 2017;).

For over three decades the world was preoccupied with ensuring that the majority of people got physical access to digital media such as computers and the internet. Although, this objective (of physical access) has not been achieved, the world has transitioned to focus on other aspects of the digital divide. The literature shows that there are four phases of which the physical access is the first stage. It is instructive to note that while the countries have moved to the four phase that involve (Goedhart, Verdonk & Dedding, 2022), some university students in Ghana are grabbing access to computers and the internet as this study revealed.

This is a reflection of the gulf between developed and developing countries. Available data indicates that “physical access [in] developed countries have about 70 to 98 percent internet [and computer] access, developing countries still average around 40-42 percent” (Scheerder & van Deursen, 2017, p. 3).

Experiences of Poor Students During COVID-19

This section underscores the lived experiences of poor students with respect to e-learning. The findings revealed that students have unpleasant experiences. As noted by a participant, “My experience with e-learning isn’t good. It brings bad memories anytime I recollect how I struggled to follow lectures that were being done online” (Sheri, interview, September 15, 2022). “For me, the experience I had with respect to e-learning during the Covid-19, I would say is unpalatable. I was unable to join lectures anytime there was online lecture” recounted Abida (interview, September 15, 2022). The bitter experiences narrated by students were precipitated by the following reasons:

Cost of connecting online

One of the experiences that emerged strongly from the interactions with the students is the cost to connect and stay online. The cost was simply huge for students from modest homes. Students related how they struggle to engage in online interactions and discussion. In Ghana, cost of data remains expensive. The amount of money required to achieve stable internet network and connectivity is out of reach of a majority of Ghanaians (UNICEF, 2019). Student responses regarding the cost of connecting online are:

“E-learning is fascinating but unaffordable. The money I had to use to buy data was so much, I couldn’t afford it. Staying online for two hours consumed significant amount of money” (Richer, Interview, September 9, 2022). “I couldn’t just buy data; besides I don’t own a laptop. First of all, I have to borrow the laptop from a friend before I can even talk of getting data to connect online. So, it was difficult for me” (Fathu, interview, September 15, 2022). The findings herein resonate with several studies earlier conducted (Asunka, 2008; Agormedah et al., 2020; Forson & Vuopala, 2019; UNICEF). The cost of internet has made internet penetration in Ghana low. Recent data show that access to internet across Ghana is 32% and 8% for urban and rural areas, respectively. This implies that student from poor and low-income households have limited access to the internet. It is also reported that the poor inability to access online services is a re-manifestation of the social inequality embedded in societies (Scheerder, van Deursen & van Dijk, 2017).

During the peak of COVID-19, the children of the rich and middle class were able to access online education effortlessly because they had access to digital equipment. Children of underclass and poor were not able to participate in online teaching and learning.

Lack of personal computers/laptops

Once e-learning commenced, university students were entreated to join various platforms specify for teaching and learning. Unsurprisingly, it manifested that students, and most particularly poor students encountered challenges among which were lack of personal computers and unavailability of internet services in places where the poor students hail from. The computer seemingly appears to be the one important device all university students should own. Unfortunately, large swathes of students in public universities cannot afford personal computers.

"I can't afford a personal computer. I rely on the schools' computer pool to browse and conduct assignments. So, with the coming of COVID and schools' closure, I struggled a lot to follow teaching and learning. I had to use my phone to download lecture notes to study. When I got back home, the internet became the real problem" (Aik, interview, September 22, 2022).

"I have no computer of my own. I depend on friends when I have assignments that require that I use computers to do them. During the COVID-19 break I had to rely on internet cafes in my area [vicinity] to enable me to log on to Zoom to listen to lectures. Because I was using a commercial centre, I couldn't follow lectures continuously for I didn't have money to pay for the services" (Kwabe, interview, September 23, 2022).

These findings are in tandem with other previous studies (Reisdorf, Triwibowo & Yankelevich, 2020; Mayoob, 2020; Patterson & Patterson, 2017; Van Deursen & van Dijk 2019). Reisdorf et al. (2020) assessed the impact of non-ownership of laptops by freshmen of Michigan State University. Similarly, van Deursen and van Dijk (2019) observed inequalities between students with laptop ownership and non-ownership in the Netherlands. In the present era, laptop ownership has become a necessity for higher education students.

Thus, in most higher institutions of learning in the USA, poor students who cannot afford laptops are assisted to acquire them in order to enable them to participate actively in teaching and learning (Reisdorf et al., 2020). It is instructive to note that the developed world, through policy has almost eliminated the problem of physical access to ICT tools (van Deursen & van Dijk, 2019; van Deursen & Helsper, 2015). However, physical access to ICT tools preoccupies the agendas of developing nations, including Ghana.

Over a decade ago, the government of Ghana instituted the 'one laptop per child policy' for students. This policy truncated with a change in government. Currently, the policy has shifted to focus on ensuring teachers in Ghana have access to laptops.

Coping Strategies of Poor Students

Following the lack of personal computers and 'no internet syndrome', poor students devised certain strategies to ensure they are not relegated from e-learning. First, poor students replied on the benevolence of friends in urban centres to apprise them of what were delivered on the virtual platforms. The following responses sum up one of the strategies employed by poor students:

"My friend who lives in Accra took upon himself to always update me on whatever was taught and discussed on the Zoom and WhatsApp. He gave the information to me through text messages and normal phone calls" (Karina, Interview, September 15, 2022). "I had a friend who resides in the city who I could rely on for information about the lecture notes and PowerPoint slides. This kept me connected even though I was in my village", asserted Ali (Interview, September 16, 2022).

Friends in urban areas with some stable internet participated in online lectures, painstakingly dot down some notes and onward relayed such information to colleagues in rural areas through text messages via phone. In addition, students also shared devices and other important tools and resources with the less privileged students to ensure teaching and learning. The second major mechanism adopted by poor students is 'camping for e-learning in urban centres. As regards this, poor students move from their places of abode to major urban areas in order to keep abreast of the happening as far as teaching and learning are concerned.

I had to seek accommodation with a close friend who lived in Tamale to stay at their place in order that I could have access to internet cafes to aid me engage in academic work (Anada, interview, 2022). Another opined; "For me, my father contacted his friend to secure accommodation for me in the city so that I could do the readings and assignments that were given. Although it was not easy, I had to manage" (Kenneth, interview, September 20, 2022). The third coping strategy that emerged from the study is that students commuted to and fro to nearby communities where they could access commercial computers and internet.

This was for students who stayed in not-too-far distant places and could afford to travel as and when there were lectures or assignments to be completed and submitted. "I was able to get a motor bike which I used to travel to the next communities where I could have access to computers and internet where I could do my assignments, submit and return back home" (Kawas, interview, September 8, 2022). This statement typifies how poor students struggle to stay abreast in terms of teaching and learning with telecommunication gadgets.

These results are in line with similar works undertaken in other jurisdictions. For instance, Reisdorf et al. (2020) in a study in the United States of America, observed that students without laptops mostly from lower socioeconomic backgrounds had to develop ways to catch-up with their peers who possessed laptops. Non-

ownership of laptops resort to computers labs of their school to do assigned readings and assignments (Reisdorf et al., 2020). As the results of this study show, students from poor households would always navigate their way to access computers and the internet to participate in teaching and learning.

IV. Conclusion

The examination of the lived experiences and coping strategies of poor university students at some selected public universities in Ghana during the COVID-19, sheds light on the challenges faced by economically disadvantaged students in accessing online education. The fascinating potential of e-learning is undeniable, offering flexibility and innovative opportunities. However, the bitter reality is that a significant chunk of students, particularly those from lower-income backgrounds, find themselves unable to afford the necessary resources for effective online learning. Accordingly, the COVID-19 pandemic exacerbated pre-existing economic disparities, making it imperative to address the digital divide in education. The experiences shared by students underscored the urgent need for inclusive policies and interventions to ensure equitable access to educational opportunities. Affordability issues go beyond the cost of internet connectivity, it also encompasses device availability, learning materials and other associated expenses.

The coping strategies employed by these students, such as sharing devices and relying on benevolent friends, demonstrate resilience in the face of adversity. In order to bridge the gap, it is crucial for educational institutions, government bodies and relevant stakeholders to collaborate on initiatives that prioritize affordability and inclusivity. This could be in the form of subsidizing internet cost, providing free devices and developing targeted financial aid programmes.

In this post-pandemic era, it is essential to reflect on the challenges encountered by students from low-income background and transform them into opportunities for positive change. Fostering an environment where every student, irrespective of their economic backgrounds can harness the benefits of e-learning would pave the way for a more equitable and formidable tertiary education system in Ghana. Based on the findings obtained, this study recommends that the government institutes a policy of one poor university student, one laptop in various public universities in Ghana.

In terms of rural internet access, this study recommends that government partners telecommunication companies to provide internet connectivity access hubs for rural areas where rural students can connect to access the internet.

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