Coronavirus (COVID- 19) Pandemic and Online Learning Nexus in Colleges of Education in Ashanti- Brong Ahafo Regions (ASHBA), Ghana

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Abstract:- **The research explored Coronavirus (COVID- 19) pandemic and online learning nexus in Colleges of Education in Ashanti-Brong Aha foregions (ASHBA),Ghana**

Online survey was administered to 4,550 respondents out of an overall population of 10,466 students, selected from all the 13 Colleges of Education within ASHBA.

The respondents reiterated that 0.55 of their lecturers were familiar with online learning tools such as zoom, facebook live, moodle etc. The above average score of lecturers on handling e-learning tools was linked to a seminar organized by T-TEL in conjunction with Dr. Dimitrios Vlachopoulos of Amsterdam University of Applied Sciences as facilitator. Similarly, a handful of 0.37 students preferred online tutorials to face to face, reiterating unreliable internet, high level of illiteracy in ICT education and inadequate funding for online studies as few of the constraints observed.

The researchers recommended that adequate public education be intensified for a holistic adoption and subsequent inculcation of online learning as part of the mainstream curriculum even after COVID-19. Additionally, Colleges of Education should find innovative ways of providing tablets/android phones with affordable data to all students/lecturers at a subsidized rate to facilitate the fervency of e-learning during, before and after crisis.

Key Words: **COVID-19, Online Learning, T-TEL, Ghana**

I. INTRODUCTION

The upsurge of Coronavirus(COVID-19), announced by the World Health Organization (WHO) on March 11, 2020 within the global stage has created the resurgence of online learning in Ghana's educational sector. As the virus continues to spread at an exponential rate, government has since announced closure of all educational institutions thereby augmenting the popularity of online education in Ghana as many stakeholders continue to adopt pragmatic steps to maximize the time loss for learning at this crucial time.

Notwithstanding the above, as the world comes to terms with the scale and severity of the Coronavirus (COVID-19) pandemic, the health of the global population seems to be rightly taking priority over education at least, in the mean -time. Stakeholders in education would have to battle with the unbearable consequences emanating from the emergence of the coronavirus pandemic which poses a huge loss of learning time, with potential repercussions for their schooling and careers in the years to come.

This study explores the readiness of Ghana's educational sector towards the effective implementation of online medium of impartation of knowledge as a means of engaging students whilst maximizing time-loss due to the outbreak of the coronavirus in Ghana.

Problem Statement

E-learning/online learning has become the bane or protagonist of change within the tertiary educational cycles the world over as regards the rising numbers in student enrolments and the masses of potential students that are denied admission each year due to lack of classrooms and accommodation.

Despite its relevance in ensuring access and increased admissions, Ghana's educational system is yet to fully align its readiness for online programs following misconceptions on its effectiveness. This is evidenced in the unwillingness of management of tertiary institutions to accept holders of certificates obtained via online studies.

Nonetheless, a new era is dawned on all and sundry to embrace the multifaceted ways of addressing societal menace such as the emergence of COVID -19 and its nexus on academic performance, leading to a sudden readiness of stakeholders in Ghana to spearhead online studies as a means of maximizing lost learning hours caused by closure of educational institutions to mitigate further spread of the

Coronavirus. So the authors ask, **is there any nexus between COVID-19 pandemic and online learning in Colleges of Education within ASHBA-Ghana?**

II. LITERATURE REVIEW

Review of literature embodies conceptual and empirical reviews on the subject matter.

2.1 Conceptual Review

Conceptual review essentially encompasses COVID-19 and Online Learning.

2.1.1 Coronavirus (COVID-19)

The global march of COVID-19 is beginning to look unstoppable. A modeling group at Imperial College London has estimated that about two-thirds of the cases exported from China have yet to be detected.

According to **Jon Cohen** *and* **Kai Kupferschmidt (2020)**, the World Health Organization (WHO) still avoided using the word "pandemic" to describe the burgeoning crisis, preferring the use of "epidemics in different parts of the world." But many scientists say that regardless of what it is called, the window for containment is now almost certainly shut. "It looks to me like this virus really has escaped from China and is being transmitted quite widely," says Christopher Dye, an epidemiologist at the University of Oxford. "I'm now feeling much more pessimistic that it can be controlled." In the United States, "disruption to everyday life might be severe," Nancy Messonnier, who leads the coronavirus response for the U.S.

According to John Ashton (2020), over the past 30 years, there has been a succession of new threats to public health from a variety of infectious disease agents. Beginning with Bovine Spongeiform Encephalitis in 1986, followed by Avian flu (1997), Severe Acute Respiratory Syndrome in 2002, Swine flu (2009), Ebola (2014) and now Corona (COVID-19), nature reminds us regularly that humans exist on the planet on sufferance. We live in habitats where respect for the relationships between animal, social life and environment is necessary for a species to thrive. Rapid urbanization with incursion into jungle and wilderness bring exposure to unfamiliar organisms often involving consumption of exotic wildlife species. Mass migration and poor attention to hygienic considerations are familiar factors in the emergence of novel and virulent infections and underlying this is poverty, inequality and subsistence living.

2.1.2 Conceptual framework of Online Learning

It remains vital to explore the nexus of online COVID-19 emergence and issues with higher education online learning so as to better provide a better context for a structured and well-organized online studies that would enhanced students'. Online learning has several characteristics that can have an impact on faculty implementation and course progress.

Restauri, S. L., King, F. L., and Nelson, J. G (2001) underscored the importance of considering the logistical component of online learning, suggesting that improperly functioning technology can hinder learning and engagement if students and instructors must devote time and resources to simple content access. Failing technological aspects of online courses can be especially frustrating for students and have a negative impact on their overall perception of the course (Pollack and Wilson 2002), so user-friendly design and adequate technological support must be considered differently within online education.

Furthermore, Shuey (2002) indicates that it could be complex for instructors to adapt certain activities (such as performance assessments, continuous assessment, and proctored tests) to the online format without losing content knowledge or interaction between classmates and/or instructors. Wijekumar et al. (2006) suggest that the feedback loop between teacher and student that is taken for granted in a face-to-face setting must be adapted as well, as online students may feel more isolation from their instructors if traditional assessments like multiple-choice quizzes and exams are used too heavily. In addition to issues of cheating, overreliance on the summative feedback from graded quizzes and exams might limit the formative feedback given to students during the learning process, which can also be problematic. However the challenges confronting online studies, it remains the best option now the world over amidst the emergence of the coronavirus.

2.1.2.1 Types of Online Learning

Three modes of delivery distinguish online education: Adjunct mode, mixed mode and totally online mode.

Adjunct mode uses networking to enhance traditional face-to-face or distance education. Mixed mode employs networking as significant portion of a traditional classroom or distance course. Totally online mode relies on networking as the primary teaching medium for an entire course or program.

2.2 Constraints Associated with Online Studies in Ghana

Online tutorials, just like conventional mode of teaching come without constraints. Lecturers who are used to teaching live classes will need to engage in innovative methods to achieve effective teaching outcomes, which may jeopardize the quality of tertiary education. Students in remote and rural areas may not have the network capacity, thereby resulting to a loss in educational opportunities. In addition, teachers who provide classes on taped broadcast network may face problems of copyright in disseminating the information.

Similarly, ICT illiteracy remains a challenge confronting learners and lecturers alike.

Despite the aforementioned challenges, the researchers believe none other apt alternative best suit the current means of redeeming academic time except e-learning.

2.3 Empirical Review

While several researchers have explored the impact of the widespread adaptation of digital technologies on students' educational attainment and learning outcomes (Braten and Streomso2006; Kuh and Hu 2001b; Robinson and Hullinger2008; Zhou and Zhang 2008), relatively little is known about how these alternate learning experiences and practices impact overall student engagement, as a majority of the original research on student engagement was centered on students in traditional face-to-face settings. Newer research that does explore the effects of technology-mediated learning on student engagement and outcomes generally focuses solely on findings at the individual course level (Drysdale et al. 2013; Henrie et al. 2015), not the overall student experience, making it difficult to generalize these findings.

A few studies have suggested that technology can have positive effects on student engagement (Chen et al. 2010; Henrie et al. 2015; Hu and Kuh2001; Junco et al. 2013; Nelson Laird et al. 2005; Robinson and Hullinger2008) and time spent in co-curricular activities (Junco 2012). For example, one study showed that using asynchronous technology tools promoted reflection, which leads to higher-order thinking (Robinson and Hullinger2008). Others found that online courses augment the need for students to work collaboratively (Thurmond and Wambach2004), and that more interactivity and engagement with online discussion boards are related to higher course performance (Kent et al. 2016).

III. METHODOLOGY

Emphasis shall be laid on population, sample size, sampling and sample technique

3.1 Population

The study's population comprised 10,466 students from the (13) Colleges of Education within ASHBA

3.2 Sample size

A total sample size of 4,550 respondents were selected from the (13) Colleges of Education using simple random sampling. The sample size represented 43% of the overall population. This is accurate coverage of the population since students from all the (13) Colleges of Education were considered **(Table 1)**

Table 3.1: Distribution of Sample Size

Region	No. of Colleges	No. included in Sample size	% Inclusion
Ashanti	**9**	**9**	**69**
BrongAhafo	4	4	31
Total	13	13	100

Authors' Construct(2020)

3.3 Research Philosophy and Paradigm

Research philosophy is a phenomenon used to describe a belief about the way in which data about a matter to be studied is gathered, analyzed and used. It has two focal issues that it considers; epistemology (what is known to be true) and doxology (what is believed to be true).

Positivism and interpretivism are two of the major known research philosophies. This study makes use of the interpretivist philosophy.

A research paradigm is a cluster of beliefs, values and techniques which is shared by members of a scientific community, and which acts as a guide or map, dictating the kinds of problems which researchers should address and the types of explanations that are acceptable to them (Creswel, 2014). Some of the commonly used paradigms in social research, according to Creswel, (2014), are positivism, interpretivist, realism, relativism and critical realism and each of them has a set of epistemological, ontological and methodological assumptions that act as a structure to explain and differentiate one paradigm from another. This study uses the interpretivist paradigm to examine CONVID-19 pandemic and online learning nexus in Colleges of Education located within ASHBA.

IV. FINDINGS

Of the 4550 respondents, 2700 were females and 1850 males representing 0.59 and 0.41 respectively. The researchers believed that females in Colleges of Education are more technologically inclined during crisis than their male counterparts.

Additionally, 0.55 of the respondents believed their lecturers were competent in handling the online learning tools such as zoom, facebook live, moodle and even whatsapp for already recorded lessons. This could be akin to the training organized and sponsored by Transforming Teacher Education and Learning **(T-TEL) and facilitated by** Dr. Dimitrios Vlachopoulos of Amsterdam University of Applied Sciences for all lecturers in Colleges of Education in Ghana. The seminar comprised 8 modules with the synopsis outlined below (https://digitalsocietyschool.org/event/online-education-training/):

- **Module 1. Conceptual investigation (3h)**

  Like society, the concept of online education is subject to constant change. The different understandings of this concept are conditioned by professional approaches and interests. An agreement on how to define online education and other similar terms could help us identify models and practices for applying these concepts and determine the key factors for better and more effective use of this type of teaching and learning. Not everyone has a pedagogical background, so a

conceptual clarification is necessary before taking over the role of online teacher.

- **Module 2. New roles for teachers and students (3h)**

  For an effective online education delivery, out of the communication related or any kind of barriers, there should be consciousness on the roles of the teachers and students in the teaching and learning process.

- **Module 3. Different pedagogical models and perspectives (3h)**

  Description and exploration of different pedagogical models implemented by online educational institutions. The cases of Spain, Cyprus, the UK, the USA and the Netherlands. The following elements will be examined: need for face-to-face presence, evaluation, interaction & use of technology.

- **Module 4. Useful tools and applications (3h)**

  During this module, several strategies, applications and tools available to online teachers will be presented. These tools are considered useful for formative instructional practice in their classrooms. It is believed that these resources will help teachers and students use formative assessment to elicit evidence of student learning. All tools and applications presented in this module are "open access".

- **Module 5. Designing learning materials for online education (3h)**

  This module aims to provide teachers with some considerations regarding the creation and implementation of online materials as part of a curriculum design process for online environments. In addition, good practices of how traditional learning materials can be used in online education will be presented.

- **Module 6. Designing your own online unit I (3h)**

  Setting instructional objectives, learner analysis and context analysis. Practical exercise. Participants can choose the content and characteristics of the online unit they will design.

- **Module 7. Designing your own online unit II (3h)**

  Task analysis, sequencing and strategies, online environments. Practical exercise. Participants can choose the content and characteristics of the online unit they will design.

- **Module 8. Designing your own online unit III (3h)**

  Completion and sharing of the designed online units. Peer feedback and show case.

Furthermore, unstable internet coverage for students from rural Ghana, inadequate ICT knowledge by some students and some lecturers alike, lack of android phones by some students etc scored 0.71, 0.63 and 0.57 respectively as some of the challenges encountered by learners via the online learning mode

V. RECOMMENDATIONS

The researchers envisage that **many students may not return to the classroom even after the crisis(COVID-19) is resolved, thereby increasing the numbers of out-of-school children and youth. Girls may be disproportionately among them, halting progress made in addressing gender disparities in education.**

To this end, the researchers specifically recommend that:

- Training of instructors and students to update their skills on online teaching and learning as already undertaken by T-TEL. **However, it should not be a one off transaction**
- Adequate public education be intensified for a holistic adoption and subsequent inculcation of online learning as part of the mainstream curriculum even after COVID-19. This will augment student enrolment as majority of qualified students are often denied admission because of inadequate accommodation in most tertiary institutions in Ghana. Online learning may vehemently curb this menace.
- Stakeholders are encouraged to invest massively on online teaching and learning materials as being spearheaded by **T-Tel in the Colleges of Education**.
- Educational institutions are also encouraged to establish online learning portals and permanent departments for online studies even after the COVID-19 pandemic.

V. CONCLUSION

Based on the findings, the researchers contend that 'global inequalities in access to education will widen and the global learning crisis will be exacerbated', disrupting progress towards Sustainable Development Goal (SDG 4), which calls for universal access to quality education if educational institutions are not well resourced to train instructors on effective online tutelage as well as establishing permanent online departments.

In the light of the above, governments are urged not to invest all resources into health at the detriment of education since the very "frontline" health staff today were once taught by a competent teacher.

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