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Learning Online during Crisis – Experiences of Students of a Women’s Community College in Ghana

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ABSTRACT

This qualitative study explored how female college students in a community in Ghana undertook their online learning activities during the outbreak of the Covid-19 pandemic. To achieve the objectives of the study, criterion sampling, and an open-ended online questionnaire were used to collect data from 24 female students from the Presbyterian Women’s’ College of Education (PWC) in the Aburi community of Ghana. From conventional content analysis, it was found that the female community college students appreciate online learning. They are able to position themselves to adapt, change their mind-set, and build their confidence to effectively study online. They have also shown the ability to leverage on basic interactive tools such a WhatsApp, chatrooms, and conference telephone calls to undertake virtual group study activities. They, however, have concerns with poor internet connectivity, limited financial resources for accessing internet services, limited time for grasping their content and lack of electronic devices. If they are supported with free internet services, electronic devices such as smart phones and laptops and equipped with online study skills, they will be able to consolidate and utilize the gains of online learning that has emerged from the outbreak of the Covid-19 pandemic.

Introduction

The Covid-19 pandemic has revolutionized formal learning across the globe. Education is one sector that the pandemic has impacted most. During the outbreak of the pandemic, 32 countries in the Asia, Australia, and New Zealand regions; 43 European countries; 38 countries in the Americas; and 44 in sub-Saharan Africa were locked down as of April 2020 to help curtail the spread of the pandemic (British Broadcasting Corporation, 2020). Universities across the world, which had been closed (Commonwealth of Learning, 2020; Lau et al., 2020; UNESCO, 2020a) then worked hard to change their face-to-face delivery to remote online learning (Smith, 2020). Corbera et al. (2020) noted that the challenges from the COVID-19 outbreak have brought transformative times for everyone. In the words of Moe and Ranjendran (2020, p. 2), “Now, Coronavirus has provided an enormous catalyst to accelerate the opportunity of the future to today.” Similarly, Hodges et al. (2020) indicated that due to the COVID-19 threat, colleges, and universities were making frantic decisions on how to continue with their delivery while ensuring the safety of their faculty, staff, and students. Moe and Ranjendran (2020) added that essentially 100% of students are taking their courses online compared to only about 30% before the outbreak of the pandemic. They further detailed that the pandemic has instantly forced 1.6 billion faculty and students online. These figures, they indicate, translate to more than 90% of

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faculty and enrolled students globally. In view of this, online or virtual learning, which offered flexibility of teaching and learning at any place and time (Kamenetz, 2020), instantly emerged as the norm.

Community colleges have not been an exception in the online movement during the outbreak of the Covid-19 pandemic (Tang et al., 2021). They have been full partakers of the Covid-19 online learning movement. This study therefore seeks to find out how the students of a female community college in Ghana responded to the Covid-19 online learning practices, the challenges that emerged and ways of addressing the challenges to help consolidate and sustain the gains from the Covid 19 online learning revolution.

Literature review

Online learning in community colleges

Community colleges in Ghana are similar to the community college model of the United States of America and their counterparts in other countries where students are prepared for first entry-level jobs in the teaching workforce (Boateng & Nyarko, 2019; Rivers, 2013) and also to provide accessible and affordable post-secondary education for non-traditional students (Raby & Valeau, 2007; Raby & Zhang, 2021). Raby (2009, 2019) has noted that while various countries call their community college institutions by different names such as, Applied Sectors of Higher Education, College of Further Education; Higher Colleges of Technology; Junior College; Polytechnic; Technical University; Technical and Further Education College; and University Colleges, the distinction are becoming blurred, and therefore the various terms could be used interchangeably while referring to them as community college models. In listing terms given to community colleges in parts of the world, Raby (2019) has indicated that polytechnics (now Technical Universities) and Vocational Education are the equivalent in Ghana. Meanwhile, Colleges of Education which until recent reforms were called Teacher Training Colleges also operate as community colleges to provide access to post-secondary education and teaching professional skill development to both regular and non-traditional students within the environs and beyond. Community college models normally satisfy a basic education need that serves a societal void and accommodate educational needs of the communities that they serve. The author provides seven characteristics that describe community college models across the globe, though with some country variations.

For instance, community colleges have binary higher educational systems, they target non-traditional students, have varied duration of studies and purpose of the curriculum and also offer open access philosophy (Raby, 2009). This is further elaborated in a recent study by Raby (2019) on community colleges and global counterparts that the mission of community college institutions are to have professional and academic programs that are responsive to the educational needs of local communities and industries. The colleges also offer options for university overflow and a second chance education for non-traditional students. In comparison to the Ghanaian situation, Rivers (2013) has written that considering the enrollment issue in Ghana, community colleges could play a major role in increasing enrollment in higher education due to its accessibility, affordability, and adaptability.

Online learning has been a predominant practice in community colleges. It has been perceived as a fast-growing segment of community college offerings (Brown, 2013). Ryan et al. (2016) have noted that the use of online platforms for instructional delivery has increased in colleges and universities. Community college students are mostly adult learners so online learning offers them an alternative, convenient, and cost-efficient means of obtaining credentials, upgrading their skills and knowledge, and expanding their employment opportunities (Hoshier et al., 2014). In a recent study, Dilling et al. (2020) have indicated that online learning enrollments continue to trend upward and community colleges have taken a greater role in higher education. Students of community colleges are attracted to the flexibility of online learning because, compared to four-year students, community college students are mostly older than the traditional age of 18–22. They happen to be mostly financially independent,

work fulltime, and have family commitments beyond the classroom. According to Cole et al. (2019), some students may opt for an online course instead of a face-to-face option. There is also evidence of some students performing better in their online courses. Administrators and academics of online learning also stand to benefit from the transformative eLearning technologies in teaching and learning. The innovations that the online learning technologies present reveal that the learners themselves are technologically savvy (Ngai et al., 2019).

Females have a peculiar situation when it comes to online learning. The work by Sublett (2019) on community college students revealed that women are more likely to take courses online compared to men and that men had lower completion rates compared to women. In addition, the research revealed that the decision of female students at the community college level to enroll in online versus face-to-face courses depends on three main reasons, which are: suitability, difficulty, and likability. In a study by Sullivan (2002), the author looked at online classroom experiences of 125 female college students and found that the online learning environment could provide opportunity for instructors to create a female-friendly classroom because of the possible anonymity that it offers compared to the physical classroom environment.

Researchers have looked at how online learning during Covid has impacted females in education. Gambino and Flemming (2021) found that females in academia were challenged with unstable work-life balance, inequitable work expectations and also needed more psychosocial support. Ganiyu and Makinde (2021) *recommended that female teachers should be resourced with ICT tools and trained on the use of ICT tools for effective delivery*. The work by Al-Doghmi and Salah (2021) on women and Covid has revealed that writing, be it short stories or personal essays of their experiences, helps females to respond to crisis such as COVID-19. This gives an indication that females in community colleges could be capable of studying online if the necessary support systems are put in place.

Challenges of studying online during crisis

The outbreak of Covid-19 pandemic has led to world crisis. In the midst of the crisis, online learning was largely accepted as the best tool to save higher institutions. Meanwhile, there has been criticisms because of the challenges associated with online learning. Issues such as uneven development in technologies, inaccessibility to electricity and technology, limited internet connectivity, high cost of internet data, unequal access to digital learning and social isolation (Commonwealth of Learning, 2020; Corbera et al., 2020; UNESCO, 2020b) have been highlighted as key challenges with the deployment of online learning.

Further arguments against online learning have been established by Lau et al. (2020). In their study, 200 respondents in a survey of 45 countries alluded that online higher education can never match face-to-face education. Lastly, Moe and Ranjendran (2020) intimated that the over 90% of faculty and enrolled students who have been thrown to the deep end of the online learning pool to sink or swim, some would sink while others would crawl back and never return to the pool. Del Arco et al. (2021) undertook a quantitative study to find out the perspective of students on factors that influenced their quality of teaching and learning during the period of confinement as a result of the Covid-19 pandemic. They found that students were passive participants in the process, interaction was limited and not much attention was paid to their emotional well-being. A study by Armon et al. (2021) revealed that the transition of medical education to online education during the pandemic revealed that there was no bedside teaching and feedback. Meanwhile, 72% of the respondents indicated that online learning should be incorporated into their entire curriculum. A study on Colleges of Education in Ghana which had to engage their students online because of the pandemic showed that basic infrastructure for online teaching and learning was not available. The teacher trainees in these institutions were faced with the issue of poor internet connectivity and high cost of data (Debrah et al., 2021). This implies that administrators of online learning programs must pay attention to reliable infrastructure for internet connectivity, provision of

affordable internet connectivity services, orientation for teachers, changing the mind-set of the learners for online learning and teaching strategies for enhancing students' engagement or online interaction.

Considerations for online learning during crisis

In spite of the challenges associated with the online learning during the outbreak of the COVID-19 pandemic, some studies have come out with recommendations for the e-learning enterprise in general. These could support the practice of online learning during crisis. From the research by Lazarevic and Bentz (2021) on perception of students on stress in online and face-to-face learning, the authors found that stress during the learning process could enhance memory formation. Hence, stress can have positive effect on students. There is therefore the need to adopt online course delivery modalities that will enhance memory formation among students.

In a study that was based on California's community college, Palacios and Wood (2016) recommended that there was the need to have a better understanding of the varied ways of presenting online-learning materials and how the interactions in online classrooms have to be structured. Ryan et al. (2016) concluded in their research on community colleges that the students who are enrolled in blended courses perform similarly, if not better, compared to students who study in the traditional instructional setting. A survey that was conducted among students at a Midwest community college in the United States revealed that strong teaching and social presence can be equally achieved in an online learning environment (Dilling et al., 2020). These findings could thus inform the practice of online learning to help address the emerging challenges during this crisis moment.

One strategy that helps in addressing the challenges in online learning during the crisis is adhering to collaborative leadership approaches (González et al., 2021). Learners also have to be supported during the transition process. As noted in the study by Johnson and Berge (2012) on online education in community colleges, the learners need instruction in online methodologies and on how to be successful in the online format, the faculty have to be trained and supported, while the administrators who become faced with new a set of challenges and opportunities should be guided and resourced with adequate budgetary allocations. Prior experience in online learning also helps students in the process. From the study by Sublett (2019), community college students in online courses were more academically prepared than students who never enrolled in online courses. In terms of age, Sublett also found that older community college students, that is, those who are 24 years and above are more likely to participate in online classes than relatively younger students. This is probably because older students have to combine work and family roles as they study.

Overall, the literature has revealed that online learning has emerged as a remedy for providing continuous formal education during crisis such as the outbreak of the COVID-19 pandemic. Female community college students are no exception in this e-learning revolution. There is evidence to show how females have been active and successful partakers of online learning in community colleges even before the pandemic (Sublett, 2019; Sullivan, 2002).

In the process, there are bound to be challenges such as limited or no resources for investing in the needed infrastructure for constant or reliable internet connectivity and lack of readiness among teachers and learners due to absence of adequate preparation. In addressing these challenges, providers of online learning have the responsibility to provide the required e-learning infrastructure at an affordable cost and orient both faculty and students for the new enterprise. The theory of transformative learning could also help to guide the practice of online teaching and learning for females in community colleges.

Transformative learning theory and online learning for females

This study on the online learning experiences of females of a community college in Ghana is informed by the transformative learning theory. Transformative learning is defined by Mezirow (1991) as a process of effecting changes through a frame of reference. Mezirow (1997, p. 5) thus contends that

‘A defining condition of being human is that we have to understand the meaning of our experience.’ His assumption is that to develop people into autonomous thinkers through transformative learning, they should learn to make their own interpretations rather than act on other’s beliefs, judgments, and feelings.

In view of the above, this study is underpinned by Jack Mezirow’s Transformative Learning Theory (TLT). The theory is used to help explore female community college students’ online learning experiences during the COVID-19 crisis in Ghana. The TLT serves as a useful theory as Mezirow (1994) considers it a constructivist approach which enables participants make meaning of their online learning through their own experiences. Cranton (1996) also considers transformative learning as a process of effecting changes in a frame of reference which defines adult learners’ life world. This implies that the learners in question could not have been transitioned onto the online environment without recourse to previous experiences (conventional or hybrid classrooms) as their frames of reference. This resonates the views of Amponsah (2020) that TLT helps adult learners to handle new materials while reflecting on old actions.

Mezirow (1997) identifies two dimensions of frame of reference. These are *habits of mind* and *a point of view*. He explains that habits of mind refer to ‘broad, abstract, orienting, habitual ways of thinking, feeling, and acting influenced by assumptions that constitute a set of codes’ (pp. 5–6). In the context of this study, habits of the mind could be ascribed to the female online learners’ constellation of beliefs, value judgments, attitudes, and feelings toward online learning. The second dimension of frame of reference, point of view, is considered to be subject to continuous change as people reflect on content or process (shifting to online studies in the context of this study) and finds reason to modify their assumptions in order to solve problems (Mezirow, 1997). Mezirow notes that feedback from others and awareness are key influencers of point of view. A connection is made between the two dimensions of TLT and Amponsah’s (2020) qualitative study on learning styles of Ghanaian adult learners. The author used the TLT as a framework to establish how the participants, though mostly oblivious of their learning styles, reflected on their learning processes over time to eventually identify their dominant learning styles.

In applying the TLT, the author of this study takes cognizance of the four processes of learning Mezirow (2000) outlined. The first is elaborating on the existing point of view which occurs when people seek evidence to support their biases toward a group or something and expand on their own point of view. Moving from a conventional or hybrid learning space to a full online space could not have happened without people harboring negative sentiments or perhaps outright rejection or rebellion against the idea, especially at the onset so it is worth using the TLT to gauge the female students’ initial response to studying online.

Mezirow (1994) indicates that the second way to learn is to establish points of view where people encounter a new group (idea and system in the context of this study) and create new negative meaning schemes for them by focusing on their perceived shortcomings. Typically, some or most of the female students might have formed negative impressions of web-based learning. This will create a frame of reference (Cranton, 1996) for them to kick against the system being put in place.

Furthermore, Mezirow (1994) posits that a third way to learn is for people to transform their points of view. At this level, Mezirow argues that consistent experiences with other cultures may result in critical reflections on their misconceptions. Eventually, people are likely to change their point of view and become more tolerant to others they held misconceptions about. This may result in a shift in thinking if the consistency with meeting others is sustained. In the case of this study, constant engagements with the online learning tools, support from service providers and peers, real-time feedback are among the factors that are key to transform the female students’ points of view. It is in this light that Howie and Bagnall (2013) argue that critical reflection is vital in helping people adapt their beliefs to fit newer experiences.

Lastly, Mezirow (1994) mentions transforming habits of the mind as the last way of learning. To this, he opined that people become more aware and critically reflect on their biased perspectives of other people which brings about transformation in people’s thinking patterns. In essence, critical

reflection on the positives of web-based learning and seeing it as a way to position education beyond the crisis will bring a paradigm shift in the learning habits formed by these female students. This last phase is in line with an assertion by Christie et al. (2015) that interest in people's world views causes them to change.

Scholars, such as Cranton (1994) and Taylor (1998), criticized Jack Mezirow's Transformative Learning Theory for putting too much importance on critical reflection as a means of transforming peoples' perspective or misconceptions. Taylor (1998), specifically, asserts that, apart from critical reflection, a number of factors, such as the role of emotions, other ways of knowing, and unconscious learning play are equally important in transformation of people's perspective or misconceptions (Taylor, 1998, pp. 33–34). To the critiques, therefore, the changing of people's point of view should not be attributed to only critical reflections as indicated in Jack Mezirow's Transformative Learning Theory. Irrespective of this criticism, Jack Mezirow's TLT is very relevant to this study because its major assumptions help the study to explore female community college students' online learning experiences during the COVID-19 crisis in Ghana by enabling the study participants make meaning of their online learning through their own experiences.

Method

This paper relies mainly on primary data collected from a study undertaken among students of the Presbyterian Women's College of Education (PWCE) in the Aburi community of Ghana. The College was established in 1928 to provide equal education to girls. The College was to run as a two-year teacher training course for women. To date, it continues to provide quality education in the area of female teacher education in the community and Ghana as whole (Presbyterian Women's College of Education, n.d.). The purpose of the college is similar to community colleges in the United States of America and global counterparts, which prepare students for the workforce (Raby, 2019; Valeau & Raby, 2018) or labor market (Legusov et al., 2021). Until 2018 the college, just like other colleges used to offer three-year Diploma certificates, which were later upgraded to degree certificates in teaching after doing another a two-year top-up course in a university (Boateng & Nyarko, 2019; Rivers, 2013). With the new policy, colleges have started enrolling students into four-year degree programs. In a report to the congregation in May 2021, the Principal of the College indicated that currently, the college has six academic departments with a total academic staff population of 30. The departments include Languages, Mathematics and ICT, Social Sciences, Vocational Skills, Applied and Physical Science, and Education. These departments of the College run three Bachelor of Education programs which are Primary Education, Early Grade Education and Junior High-School Education (with specialization in Home Economics) for a total of 816 students out of which 52.3% are offering Primary Education, 30.0% are offering Early Grade Education and 17.4% are offering Junior High-School Education. With the outbreak of the COVID 19 pandemic which forced all nations including Ghana to have a second look at their educational activities as well as mode of delivery of lessons, the College had no choice than to adapt to the demands of the day. Their face-to-face engagements with students for teaching changed drastically to virtual learning. To effectively manage the virtual teaching and learning, the College developed its own learning management system. Tutors were trained to be able to manage the virtual engagement sessions effectively. Students were also given simple instructions on how to log on to the virtual classrooms provided. To be able to run the learning management systems effectively for research and communication, the College employed the services of a company to provide internet connection. This helped to improve the internet connectivity for both tutors and students. Some students were also supported with the purchase of smartphones that was payable in 12 months installment to help them participate actively in the virtual teaching and learning. As part of the Colleges of Education Covid 19 Protocols, the system was structured such that two levels of students were made to stay on campus at a time while the rest were taught virtually (Anim, 2021).

This qualitative study therefore sought to find out the online tools that helped the students to study online during the outbreak of the pandemic, preparations that the institution gave them to be able to transition to study online and how they studied with the tools by themselves, with their tutors and study mates. The study also sought to find out their anxiety with the use of the tools, how they managed to overcome the initial concern/fears to be able to study online successfully, the challenges that persisted after their initial online learning experience and recommendations or suggestions for helping female community college students to study effectively online. A data collection instrument was therefore designed to collect such information. The specific items on the data collection instrument covered age of the respondents, online tools that they used for their studies, how they used the tools to study online and what their fears or anxieties were for using the tools for online studies. Other questions also sought to find out how they studied online with their tutors or lecturers, their mates or engaged in group discussions and undertook personal studies. The respondents were also asked to indicate how they managed to overcome their initial fears to be able to study online successfully and the preparations that were made for their online studies. The final section of the instrument for data collection solicited information from the respondents on persisting challenges after their initial experience of online learning and suggestions for supporting female students to succeed in their online studies. Apart from the question item on the biodata of participants and the online tools used for studying, which were close-ended, all the remaining questions were open ended. The responses to these were therefore analyzed qualitatively.

Data collection

A Google form was set up and the link was shared with the students to fill online. The instrument for the data collection was first tested among a cohort of female students in another institution who had also studied online during the COVID-19 outbreak. Their responses helped to get a sense of how the results will look like and based on the pilot study, the instrument was finalized for the main online data collection. The IT officer of the College shared the Google link among the cohort of students who had engaged in and experienced the online learning. For ethical reasons, respondents were made to understand that by responding to the question items, they were allowing the researcher to use the information for academic purposes including publication of the results. The criterion sampling strategy was used for the main study where the online questionnaire was administered in May 2021 among female students from the Presbyterian Women's College of Education (PWC) in the Aburi community of Ghana.

Analytical techniques

In all, twenty-four (24) students participated in the study by responding to the online questionnaire. The responses gathered from the participants were downloaded as Excel spreadsheet and read through to attain immersion. After a thorough understanding of the responses, the transcripts (file) were formatted, cleaned, and subsequently imported into Nvivo for auto-coding. A two-level code was adopted, namely parent nodes and child nodes. The parent nodes denote the combination of multiple nodes under one reference node that represents a major theme. Child nodes, on the other hand, refer to individual sub-themes, which were grouped under a parent node (Adu, 2019). Conventional content analysis was conducted on the themes to show the relationships between various sub-themes and the major themes (Hsieh & Shannon, 2005). Narratives and quotations were used to explain and illustrate certain key terms that emerged in the responses of participants. In addition to the narratives and quotations, word queries were conducted, and word clouds generated to show the popularity of certain key words that emerged from the responses of the participants. Text search queries and word tree analysis were also conducted to rank certain key words and terms. For the purposes of confidentiality, respondents have been anonymized with pseudonyms (anonymous

numbers). The first respondent was, for instance, identified with “R1” and the second respondent with “R2.” Direct quotations, therefore, bear pseudonyms used to identify participants of the study. The results that emerged from the study are presented and discussed as follows.

Results

On the profile of the respondents, the results revealed that out of the 24 responses, 91.7% fell within the age bracket of twenty to 29 years while the remaining 8.3% were 19 years and below.

The tools used for online studies

The responses of the respondents revealed that majority of the students, constituting 75%, were using WhatsApp and/or zoom as tools for online studies. This category of students was followed by students who use Google App (Platform), constituting 62.5% of participants. Those who use Microsoft Teams followed, constituting 12.5% of the participant. [Figure 1](#) shows the dominance of “Whatsapp”; “Zoom”; and “Google” in a word cloud illustrating a broader perspective of the various tools used by participants for online studies.

How students used selected tools for online studies during Covid-19

When participants were asked how they studied online with their respective tools during the outbreak of Covid-19, the responses that emerged from the data were broadly categorized into three main strategies, namely: class sessions, research purposes, and personal studies.

For the first category (class sessions), respondents explained that the tools serve as a platform (classroom) for lesson delivery where students have the opportunity to engage their tutors/lecturers in conversation and ask questions. One of the respondents who use the tool for class sessions, for instance, stated that,

“I use the google app to join class with the aid of my phone”. Respondent 8, PWCE, Aburi

Similar views expressed in line with using selected tools for class sessions are illustrated in excerpts of participants’ responses as follows



Figure 1. Word cloud of most used words in describing tools used for online studies. Source: Field Work, Learning online during crisis, May 2021

Tutors send audio for us to listen and days and time are designed [for us to meet and discuss] a particular course.

Respondent 18, PWCE, Aburi

WhatsApp served as a classroom to share ideas. **Respondent R4, PWCE, Aburi**

[I put] on my data and listen to what the tutor was teaching. **Respondent 19, PWCE, Aburi**

We join our tutors to teach on zoom, most information is given out on WhatsApp platform. **Respondent 20, PWCE, Aburi**

For the second category (research purposes), the data suggested that students used the selected tools for research purposes. Respondents explained that they use the tools to collate relevant information in relation to their courses, print them out and study the printed materials. One of the respondents who falls in this category was of the view that,

“[I use the tool] to gather information and then print it out to help me study”. **Respondent R9, PWCE, Aburi**

Another respondent who shared a similar view asserts that,

[I] get information from there, **R23, PWCE, Aburi**

In terms of the last category (personal studies), the data gathered from the respondents suggest that some students go back to some selected tools after class sessions to revise lessons learned for their personal benefits. One of the respondents comprehensively captured this assertion by indicating that,

“After lectures I go back and glance through information typed or recorded by the tutor especially when using the WhatsApp tool”, **Respondent 20, PWCE, Aburi.**

Another respondent who shares a similar view asserts that,

“[I use the tool for studies] by reading”, **Respondent 1, PWC, Aburi**

Students’ greatest fear or anxiety with the use of tools during online studies

The study sought to ascertain the greatest fear or anxiety that students had with the use of selected tools. To determine the greatest fear or anxiety of students, a word frequency query was conducted. Out of the word frequency query of the most frequently used words by the respondents in describing their greatest fear or anxiety, “network” had a weighted percentage of 8.00% with 8 references; followed by “bundle” with a weighted percentage of 4.00% with 4 references; followed by “data” with a weighted percentage of 4.00% with 4 references; and “poor” with a weighted percentage of 4.00% with 4 references. This shows that the greatest fear or anxiety that students have with the use of selected tools are associated with words such as network; bundle; data; and poor. A text search query and a subsequent word tree analysis were, therefore, separately conducted for the first two key words (“network” and “bundle”) to find out the key terms that they are both associated with. The analysis revealed that whereas “network” is preceded mainly with “poor” and followed mainly with “problem,” “bundle” is preceded mainly with “data” and “insufficient.” This, therefore, indicates that the majority of the respondents considered “poor network problem” as their greatest fear/anxiety with the use of selected tools during online studies followed by “insufficient data bundle.” This assertion is confirmed

Box 1. Students’ view on their greatest fear/anxiety with the use of selected tools during online studies.

- *Poor knowledge of the site and poor network*
- *Poor Network and bundle*
- *Internet connectivity challenge*
- *Not having a data to join the class and sometimes quiz are being put there which I don’t know to assess*
- *Network issues and money for data*

Source: Field Work, Learning online during crisis, May 2021

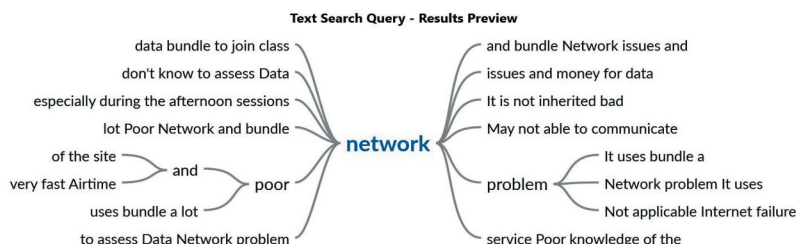


Figure 2. Word tree of the linkage in the usage of “network” and its associated key terms. Source: Field Work, Learning online during crisis, May 2021

in the excerpts of respondents’ views in [box 1](#) and [Figure 2](#) illustrating a word tree showing how respondents closely use the word “network” and its associated key terms together.

How students overcame initial concern/fears to be able to study online successfully

When the participants were asked how they overcame their initial fear to study online successfully, the result that emerged from the responses of the respondents shows that majority of them worked on accessing a better internet and/or purchasing more airtime to have enough data bundle. Other respondents, who are in the minority, stated that they solicit technical support from people who are IT inclined. [Box 2](#) presents various mechanisms respondents used in overcoming their initial fears to be able to study online successfully.

Box 2. Students’ view on how they overcame initial concern/fears.

- *I made sure I had good network service.*
- *I decided to get more airtime for bundle and also make sure I get good internet service before I go ahead with my online studies.*
- *I placed it at the back of my mind that, the online has come to stay, so I need to help myself by getting enough data for study.*
- *By making sure, I do not waste my data bundle when not learning.*
- *I looked for places where I stand, so I could get the network.*
- *I move to a place where there is good network before joining lecture.*
- *Constantly have enough airtime.*
- *I also studied important feature on the app, such as zoom.*
- *I mostly call the IT support for assistance.*
- *Through the help of others, mostly during practicals.*

Source: Field Work, Learning online during crisis, May 2021

How students used selected tools to study online with tutors/lecturers

Another major insight that the study sought to obtain from the students was how the selected tools were used by the students during online studies with their tutors or lecturers. The data gathered from the respondents in response to this question revealed that the selected tools helped students to study online with their tutors or lecturers mainly through video, audio, or exchange of text messages. From the responses of the respondents, it is apparent that, through any of these media (videos, audio, or exchange of text messages), students’ online studies with tutors or lecturers take place in three different forms. These include tutorials by lecturers/tutors (lecture method), question and answer sessions, or class presentations by students.

Concerning online studies that take the form of tutorials, respondents explained that, using either discussion method or lecture method, tutors/lecturers present their lessons, using selected tools, while students listen and make contributions when asked. One of the respondents who shares this view, for instance, states that,

“...when we log in, we all mute our microphones for him to talk; we are later allowed to ask questions and add contributions” **Respondent 24, PWCE, Aburi**

Another respondent who shares a similar view also states that,

“it was just like the normal teaching in class but it was online”. **Respondent 11, PWCE, Aburi**

Similar views that give credence to the tutorial form of students' online studies with tutors/lecturers include the following:

through Google classroom, tutors teach. **Respondent 24, PWCE, Aburi**

Sometimes, we use discussion method and other times too, we use lecture method [to study online]. **Respondent R16, PWCE, Aburi**

A link will be given to serve as aid to join the class, after waiting for our colleagues to all join the class, the teacher will start teaching. **Respondent 10, PWCE, Aburi**

Concerning online studies which take the form of questions and answers, the data gathered from the respondents suggest that, using the selected tools, tutors/lecturers use the mechanism of question and answers to probe the understanding of students on specific lessons. A respondent comprehensively captures this assertion by stating that,

“so with zoom, the lecturer comes to ask questions and with WhatsApp, the lecturer don't teach but rather asks questions and give assignment just to cover the topics”. **Respondent 7, PWCE, Aburi**

Similar views expressed in line with the above assertion are as follows:

“...we interact with lectures on WhatsApp through chats and audios telling him our problems about a lesson taught”. **Respondent 4, PWCE, Aburi**

Most times, we wait for other colleagues to join before we can start the class. A question is being asked by the teacher and then he calls names to answer. **Respondent R18, PWCE, Aburi**

The tutor presented the concept he or she is about to teach by posing questions for us to answer before he or she will give us details of the concept. **Respondent 20, PWCE, Aburi**

With regard to online studies that take the form of class presentations, respondents explained that as part of their online studies, they do a presentation of class assignment to their tutors/lecturers using the selected tools. In giving credence to the above assertion, one of the respondents states that,

“Lecturers gives out assignment...; I then prepare and do a presentation of the assignment to the class”. **Respondent 3, PWCE, Aburi**

How students use selected tools to study online with their mates (group studies)

The study also sought to find out how students used the selected tools to study among themselves. Respondents were therefore asked to give a detailed description of how they were studying online with their colleagues. From the responses of the respondents, it is clear that the students also interacted among themselves through mainly video, audio, or exchange of text messages. Although the forms of online studies among students (student-student engagement) are similar to that of tutor/lecturer-student engagements, the student-student is slightly different. Among students, their online studies mainly take the form of discussions (interaction) and peer research. A significant number of respondents also indicated that they found it very difficult to do online group studies among themselves through the selected tools.

Concerning online group studies that take the form of discussions, respondents explained that they use any of the selected tools to interact among themselves through group chats to get different perspectives on the lessons that are delivered in class to enhance their understanding. As captured by one of the respondents,

“... we discuss what we don’t understand and get other’s perception as well”. **Respondent 24, PWCE, Aburi.**

Other views in relation to the above are outlined as follows:

“We used WhatsApp for discussions”. **Respondent 22, PWCE, Aburi**

“We call each other, that is conference call, and study”. **Respondent R7, PWCE, Aburi**

[We study through] group discussion. **Respondent 15, PWCE, Aburi**

Concerning online group studies that take the form of peer research, respondents explained that they usually put questions on their group studies platform and each group member goes to research about the question and sends their findings to the group page. Members of the group then go through the findings on the group page to take note of relevant information in answering the question. This assertion is well captured in the responses of a respondent, who asserts that,

“... questions are placed on the group studies platform and each group member was given an opportunity to make research on the questions and post their findings unto the group platform. Group members went through and fished out relevant information. The group secretary then typed the relevant information to be presented”. **Respondent 20, PWCE, Aburi.**

Although some students successfully conducted online group studies among themselves, other students found it difficult to engage in online group studies through the selected tools. One of the respondents, for instance, expressed the difficulty with conducting online group studies by stating that,

“It was difficult to do a group work online”. **Respondent 11, PWCE, Aburi**

Other respondents also expressed their inability to conduct online group studies by stating that:

“... was not able to do group discussions”. **Respondent 19, PWCE, Aburi**

“... we never studied online together.” **Respondent 19, PWCE, Aburi**

How students use selected tools to study online by themselves (personal study)

Apart from how students used selected tools to study with their tutors/lecturers and among themselves (group studies), the study also sought to find out how students used the selected study to study online by themselves. The results that emerged from the respondents revealed that students use the same media of video, audio, or text in their personal online studies. Concerning the exact form through which personal studies were done, the responses suggested that whereas majority of the students use the selected tools to study by engaging in personal research, others studied online by watching videos or reading text already presented to them by their tutors/lecturers on their respective selected tools. Again, a number of students (in the minority) expressed difficulty in using the selected tools for personal online studies.

Concerning students who used the selected tools for online studies by conducting personal research, respondents explained that they use the selected tools to search for reading materials and make notes out of their search for personal studies. This assertion is buttressed by excerpts of respondents’ view presented in [Box 3](#).

Box 3. Students' view of how they use selected tools for online studies through research.

- *Google search was one way of getting my problems solved through studies.*
- *I research more on the app to make note through my research.*
- *I also search goggle or YouTube for further information.*
- *I use my phone to do research and to read slides as well.*
- *By researching and jotting down notes.*
- *Searching questions in google chrome*
- *I use my phone to do research and to read slides as well*

Source: Field Work, Learning online during crisis, May 2021

Concerning students who resort to online personal studies through reading text or watching videos with their selected tools, they explained that they usually save text (lecture slides) and/or videos uploaded by their tutors or teachers via selected tools and read or watch such materials. This is how they study online. The following views buttress this assertion.

"By watching videos on topics". Respondent 2, PWCE, Aburi

"I downloaded information saved at the school websites, printed it out and studied". Respondent R20, PWCE, Aburi

By reading slides that have been uploaded on the Moodle. Respondent 22, PWCE, Aburi

"By reading any document being put on the platform, sometimes I use the LMS". Respondent R21, PWCE, Aburi

Just like the case of using selected tools for group studies, some respondents expressed the view that they found using the selected tools for online students a difficult task. According to the views expressed by these respondents, one major factor that made personal online studies difficult for them was the fact that they could not fully grasp the concept in the topics they were learning online with their selected tools. Participants' views along this thought pattern include the following:

"... it wasn't helpful at all, I just read slides without understanding it" Respondent 7, PWCE, Aburi

"It was very difficult because most time you don't understand the concept" Respondent 18, PWCE, Aburi

"... it was a difficult task but while lectures was ongoing, I was making my own notes". Respondent 24, PWCE, Aburi

How the institution prepared students to transition to study online

The study sought to ascertain measures the institutions put in place to successfully transition students from face-to-face studies to online studies. In response to this query, the data gathered from the respondent's indicate that three main mechanisms were used by the institution to facilitate the migration of students unto online studies. These mechanisms include tutorials on the use of selected tools, creating of online accounts for students and giving out of mobile phones to some students.

To start with, some respondents explained that various stakeholders in the institution (tutors/lecturers, principals, and IT specialists) taught and explained to the understanding of the student body, how selected tools should be used for online studies. According to the respondents, these stakeholders made sure that students understood various features of selected tools (application software or sites) before the start of the online studies. One of the respondents, for instance, assert that,

"... a tutor took as through the site for studies; he made sure we were well abreast with the features on the app or site" Respondent 4, PWCE, Aburi.

Similar assertions made by other respondents include

"I was taken through the Zoom app and google meet. My tutor enlightened me on some key features on the site before we got on board". Respondent 3, PWCE, Aburi

"LMS was designed by the IT members and we were orientated on how to use the tools". Respondent 6, PWCE, Aburi

"I downloaded information saved at the school websites, printed it out and studied". Respondent R20, PWCE, Aburi

"We were prepared by our tutors teaching and taking us through how the online works and how we should go about it". Respondent 5, PWCE, Aburi

"A general meeting was held by the principal for all level 300 to be aware of the new form of learning". Respondent R18, PWCE, Aburi

"They gave us tutorials about the online classes for us to understand how things will be; orienting us on how to study online and how to access pdf files". Respondent R14, PWCE, Aburi

Concerning the creation of accounts for students, respondents explained that the institution created various accounts for them for dissemination of information and tuition purposes. Specifically, e-mail accounts were created for the students for dissemination of information. Google accounts were created for the purposes of tuition. A respondent captured this thought comprehensively by asserting that,

"... they created a school email account for each student to help send information to all students, they all helped all students to log onto the virtual platform". Respondent 21, PWCE, Aburi

A similar thought pattern was captured by another respondent who succinctly asserts that,

"... they created school email for us". Respondent 8, PWCE, Aburi

Other views that buttress the above assertions are as follows.

"... they gave us a Moodle to use." Respondent 7, PWCE, Aburi

"... they created a college account for each student; that's the virtual classroom. Respondent R9, PWCE, Aburi

"They created a link for us to log in for lectures." Respondent 24, PWCE, Aburi

In addition to the above measures, a respondent revealed that mobile phones were given to students to enable them access internet and use selected tools for online studies. As stated in the exact words of the respondent, students were prepared by:

"... giving mobile phones to those who did not have smart phones" Respondent 23, PWCE, Aburi

Preparations student personally made to transition to study online

When the respondents were asked about the personal preparations they made to be able to transition to online studies, the results that emerged from the responses to this query were similar to the measures adopted by students to overcome their initial concern/fears to be able to study online successfully. Specifically, the mechanism adopted by most respondents in preparation to transit to online studies include putting measures in place to access good network and purchasing enough data to have constant internet access. In addition to the preparation for good network and sufficient data, other respondents also purchased smart phones as part of their preparation to transit to online studies. The responses of respondents in line with this assertion are illustrated in [box 4](#).

Box 4. Excerpts of students' views in line with personal preparations made to transition to online studies.

- *By staying in area where the network is stable in order not to have any obstructions.*
- *Has to stop working and move to a good network area.*
- *Getting a good network to be able to study online.*
- *By moving from one place to another to get network and working to get money to buy bundle.*
- *I bought enough bundle and moved to the roadside each time we had a zoom class.*
- *By having enough money to buy data bundle when the online meeting starts.*
- *Buying bundles and credit.*
- *Always purchasing bundle to get me prepared for lectures, tries to get good network.*
- *Purchasing of bundle and searching for stable network with stationeries ready.*
- *By moving from one place to another to get network and working to get money to buy bundle.*
- *I played around with some of the key features on the app to get more knowledge on how it work.*
- *I quickly bought a new phone to be able to join the online lectures every day.*

Source: Field Work, Learning online during crisis, May 2021

How students managed their fears and challenges studying online

The study sought to ascertain how students successfully managed their fears and challenges in studying online. The responses gathered show that majority of them overcame their challenges through constant practice. As explained by the respondents, as they continue to practice with the selected tools (through class sessions with tutors/lecturers; group studies; and personal studies), they become use to operationalization of the selected tools, and this helped them to effectively manage their fears and challenges studying online. A few respondents indicated that they work hard to earn enough money to buy airtime for data bundle and this made them to manage the challenge of insufficient data bundle and poor network. Those who become used to online studies through constant practice were in the majority. The views of the respondents in line with how they managed their fears and challenges studying online are illustrated in [Box 5](#).

Box 5. Excerpts of students' views in line with managed their fears and challenges studying online.

- *Giving much attention to the lesson.*
- *Through research and constant practice*
- *I take bold steps in knowing the site or app*
- *It has become very much easy by experience*
- *Change is good so I had to adapt to the new way of learning and learn*
- *I encouraged myself that with or without a tutor I must study and pass*
- *Doing my best to understand*
- *Since the online has come to stay am already used to it*
- *By making sure always I have bundle*
- *Working hard to get money to purchase bundle*
- *By attending the online class regularly*
- *By staying at a place where there's network and working to get money to buy bundles*

Source: Field Work, Learning online during crisis, May 2021

Outstanding challenges after experience of studying online

Having experienced online studies and initial fears, and coming up with mechanisms to manage initial fears and challenges studying online, the study sought to ascertain if there were any outstanding challenges that ought to be resolved. Although other challenges emerged from the data gathered from respondents, the challenge of poor network and insufficient data bundle remain dominant in the outstanding challenges that the respondents enumerated. With regards the challenge of insufficient data bundle, respondents complained that they do not have enough money to sustain the purchase of airtime for data bundles. This is well captured in the view of a respondent, who stated that,

"... my challenges] are network issues and finances in purchasing bundle always". Respondent 21, PWCE, Aburi

Box 7. Recommendations on frequent use (constant practice) of selected tools for research.

- *[Female students should do] more research on any site chosen as online tool for studies constant practice on the app or site in order to get familiar with it.*
- *[Female students should] be bold in using any IT tools and do more research.*
- *I recommend the use of WhatsApp tool because with the use of that tool, you can easily retrieve information you are in need of.*

Source: Field Work, Learning online during crisis, May 2021

Box 8. Recommendations on the provision of institutional internet.

- *If the school can solicit for bundle with the network service providers through the government, we would be happy.*
- *Data problems must be looked into.*
- *[The institution] must talk to one network for them to reduce the bundle package for students.*
- *I think that, there must be a provision of bundle for students to make learning easier.*
- *Provision of free WiFi or bundle.*
- *By providing bundles and phones to those who do not have phones.*

Source: Field Work, Learning online during crisis, May 2021

Discussions

The study on online learning experiences of female community college students have provided insights for rolling out and managing online learning for students with similar demographics. Majority of the female community college students who participated in the study, over 90% fell within the range of 20 to 29 years. This implies that they were at a reasonable age to appreciate the use of educational technology for learning (Kwapong, 2007, 2010, 2019; Lakhal & Khechine, 2021). Based on Sublett (2019)'s note that older community college students who are 24 years and above are more likely to participate in online classes than relatively younger students, it is likely that this has informed their commitment to the online studies during the crisis.

The study has revealed that the tools that the female community college students used for their studies included WhatsApp, Zoom, Google, and Microsoft Teams. It is interesting to note that unlike the study by Hoshier et al. (2014) which indicates that, compared to the traditional face-to-face learning mode, challenges in the e-learning system include issues with use of new technology, the female college students found strategic ways to use basic tools such as chats, WhatsApp, and even conference phone calls to study with their mates during the isolation times of COVID-19. Addae, Amponsah & Gborti, (2021) also found from their study of a community college in Ghana that there was the use of unregulated social media platforms for learning. This is in line with Mezirow's (1994) position on the third learning strategy to learn where individuals transform their points of view based on their previous knowledge and experiences. In their study of the historically marginalized students of a community college at the U.S.-Mexico border, Mandache et al. (2021) found that the pandemic provided opportunities for their anthropology students to apply concepts from assigned readings to confront and analyze a historical moment during the pandemic.

The orientation that the institution gave to the students and the personal preparations that the students made toward their online learning helped to position them for online studies. While the institution exposed the students to the new ways of learning and opened online accounts for them on the various platforms that they were to use for their studies and provided smart phones to needy students, the students settled at locations that they could access the internet with some ease, purchased internet bundles, studied the features of their e-learning platforms, downloaded course materials ahead of time and psyched themselves for the new mode of learning and so transformed their habits of the mind to embrace the new challenge (Mezirow, 1994).

It was found from the study that the female community college students had some fears and anxieties before the start of their online studies. These included poor internet connectivity, lack of internet bundle, poor communication flow with their tutors and among themselves, not being able to use the online learning tools, missing a class, inability to access a course websites and poor academic

performance. Some of these fears and anxieties before the start of the online class remained as challenges for the students even after their first experience of the online classes. The issue of poor internet connectivity and the high cost of internet services remained as challenges confronting students after their initial online study (Commonwealth of Learning, 2020; Corbera et al., 2020; UNESCO, 2020b). There was also the challenge of using faulty mobile phone devices, poor teaching methods, and limited time for their studies that contributed to their inability to grasp the course content. The recommendation from the study by Palacios and Wood (2016) on California's community college to adopt online course delivery modalities that will enhance memory formation among students will be a good way of helping students manage the content. Raby and Zhang (2021) have also observed the need to provide equitable access to technology and virtual learning experiences for learners in community colleges during the COVID times.

The female college students however found ways to manage their initial fears and anxieties and the challenges that emerged. The respondents were asked to indicate how they managed their anxieties, fears, and challenges of online learning. Some of them found the use of their smart phones to be helpful in overcoming initial concerns or fears of online studies. The phones assisted them with group work and also supported their reading activities. They settled for reliable internet connectivity and made sure that there was regular supply of data bundle for their internet services. Some of them adopted a positive mind-set, motivated themselves, adapted to the new normal, constantly practiced what they learnt and researched further, attended classes regularly, paid attention in class, and worked as hard as they could to succeed in their online studies. This supports the findings by Abou-Khalil et al. (2021) that student-content engagement strategies are effective than student-teacher and that students select the material based on their interests and conduct presentations using the delivery method of their choice. Instructors therefore have to work with students to find what works for them and leverage on that. In a study that focused on Sinclair Community College, Prokes and Housel (2021) found that institutions have to consider the voice of students academically, emotionally and technologically as they provide educational services during the COVID times. As expressed in the TLT by Mezirow (1994, 1997) the learners should learn to make their own interpretations rather than acting on other's beliefs, judgments, and feelings. They should also find reasons to modify their assumptions in order to solve problems and reflect on their learning processes over time to eventually identify their dominant learning styles.

Suggestions for supporting female college students online were offered by the respondents. The study revealed that female college students can be supported to study effectively online by equipping them with online learning strategies to enable them study in their comfort zone. They should also be encouraged to be active online and given enough time to submit assignments and to use educational technology tools with confidence.

These suggestions are supported by the findings of Bączek et al. (2021) that the main advantages of online learning are the ability to stay at home, continuous access to online materials, learning at your own pace, and comfortable surroundings. The study by Del Arco et al. (2021) has highlighted the importance of promoting self-regulation during learning in an online environment when there is a crisis such as the Covid-19 pandemic. A study of adult learners who had to be taught online during the outbreak of the COVID-19 pandemic concluded that instructors have to improve their delivery of the courses and relationship with students to help sustain them in online studies (Kwapong, 2021).

Conclusion, recommendations, and areas for further research

Online learning has become the norm during the outbreak of the COVID-19 pandemic. Academic institutions had to hurriedly migrate their students from face-to-face classroom instruction to online platforms such as learning management systems Zoom and Microsoft Teams. In this emergency situation, the environment within which the students studied and the limited or lack of IT infrastructure were not given much consideration. Both faculty and students therefore had to go through

stressful situations to manage their teaching and learning activities. The situation was not different for students at the Presbyterian Women's College of Education, Aburi in the Eastern Region of Ghana as shown in this study.

This study has revealed that as expressed in the TLT by Mezirow (1994, 1997) female college students appreciate online learning. They were able to position themselves to adapt, change their mind-set and build their confidence to effectively study online. They have also shown ability to leverage basic interactive tools such as Whatsapp, chatrooms and conference telephone calls to undertake group study activities. The female college students, however, have concerns with poor internet connectivity, limited financial resources for accessing internet services, limited time for grasping their content and lack of electronic devices among others. If they are supported with free internet services, electronic devices such as smart phones and laptop and online study skills, they will be able to consolidate and utilize the gains of online learning that have emerged from the outbreak of the Covid-19 pandemic to their advantage. Smith and Ayers (2006) have noted that community colleges educators have to be responsive to diversities when planning, designing, implementing, and assessing e-learning programs to ensure that technology-mediated learning experiences are less intimidating to and accord respect to individuals of marginalized cultures. The study by Yu (2021) has recommended the need to improve the quality and dynamic of online contents and highlight blended learning instead of just online or traditional face-to-face learning modes. Fauzi and Khusuma (2020) found from their study that teachers understand the context of online learning, but there are problems in the implementation that result from availability of facilities, network and internet usage, planning, implementation, and evaluation of learning. The suggestions by Dhawan (2020) are worth considering here; that to make e-learning effective in such difficult times, there is the need to focus on efficient use of technology and also technology that has minimum procurement and maintenance costs but can effectively facilitate educational processes. Mukhtar et al. (2020) concluded in their study that the advantages of e-learning during Covid-19 pandemic are remote learning, comfort, and accessibility. The limitations on the other hand include inefficiency and difficulty in maintaining academic integrity. The authors then recommended the need to train faculty on using online modalities and to develop lesson plans that have reduced cognitive load and increased interactivities.

Future studies could thus look at the perspectives of the teachers, a comparison of a female community college with a male or mixed sex community college, their academic performance during their face-to-face and online studies and ways of assessing female community college students online.

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References

- Abou-Khalil, V., Helou, S., Khalifé, E., Chen, M. A., Majumdar, R., & Ogata, H. (2021). Emergency online learning in low-resource settings: Effective student engagement strategies. *Education Sciences*, 11(1), 24. <https://doi.org/10.3390/educsci11010024>
- Addae, D., Amponsah, S., & Gborti, B. L. (2021). COVID-19 pandemic and the shift to digital learning: experiences of students in a community college in Ghana. *Community College Journal of Research and Practice*, 46(1–12), 101–112. <https://doi.org/10.1080/10668926.2021.1972364>
- Adu, P. (2019). *A step-by-step guide to qualitative data coding*. Routledge.
- Al-Doghmi, N., & Salah, R. (2021). Female writings in times of crisis: A transnational feminist and sociolinguistic study. In Hancı-Azizoglu, E. B. & Alawdat, M (Eds.), *Rhetoric and sociolinguistics in times of global crisis* (pp. 235–255). IGI Global.

- Amponsah, S. (2020). Exploring the dominant learning styles of adult learners. *International Review of Education*, 66(4), 531–550. <https://doi.org/10.1007/s11159-020-09845-y>
- Anim, C. (2021). Presbyterian women's college of education, Aburi Principal's address for the 13th congregation ceremony, held on 19th May, 2021 at the college auditorium
- Armon, S., Benyamini, Y., Grisaru-Granovsky, S., & Avitan, T. (2021). Online obstetrics and gynecology medical students clerkship during the Covid-19 pandemic: A pilot study. *Medical Science Educator*, 31, 457–461. <https://doi.org/10.1007/s40670-020-01181-y>
- Azumah, O. (2020). *No reopening date set for schools*. Myjoyonline. <https://www.myjoyonline.com/news/education/no-reopening-date-set-for-schools-dr-adutwum/>
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A., & Woźakowska-Kapłon, B. (2021). Students' perception of online learning during the COVID-19 pandemic: A survey study of polish medical students. *Medicine*, 100(7), e24821. <https://doi.org/10.1097/MD.00000000000024821>
- Boateng, F. K., & Nyarko, K. (2019). Community college adaptation in Ghana: A perspective analysis. In U. Gualee (Ed.), *Global adaptations of community college infrastructure* (pp. 155–167). IGI Global.
- British Broadcasting Corporation (2020). *Coronavirus: The world in lockdown in maps and charts*. <https://www.bbc.com/news/world-52103747>
- Brown, W. J. (2013). Multicultural curriculum development in online classes: Practices from Washington state community colleges. *Community College Journal of Research and Practice*, 37(10), 750–763. <https://doi.org/10.1080/10668921003723268>
- Christie, M., Carey, M., Robertson, A., & Grainger, P. (2015). Putting transformative learning theory into practice. *Australian Journal of Adult Learning*, 55(1), 10–30. <https://doi.org/10.3316/ielapa.069076554869878>
- Cole, A. W., Lennon, L., & Weber, N. L. (2019). Student perceptions of online active learning practices and online learning climate predict online course engagement. *Interactive Learning Environments*, 29(5), 866–880. <https://doi.org/10.1080/10494820.2019.1619593>
- Commonwealth of Learning. (2020). *Guidelines on distance education during COVID-19*.
- Corbera, E., Anguelovski, I., Honey-Rosés, J., & Ruiz-Mallén, I. (2020). *Academia in the time of COVID-19: Our chance to develop an ethics care. Laboratory for the analysis of social-ecological systems in a globalised world*. www.laseg.cat/en/news/22/academia-in-the-time-of-covid-19-our-chance-to-develop-an-ethics-of-care
- Cranton, P. (1994). *Understanding and promoting transformative learning: A guide for educators of adults*. Jossey-Bass higher and adult education series (pp. 350). Jossey-Bass.
- Cranton, P. (1996). *Professional development as transformative learning. New perspectives for teachers of adults*. The Jossey-Bass higher and adult education series (pp. 350). Jossey-Bass Publishers, Inc. 94104
- Debrah, A., Yeyie, P., Gyimah, E., Halm, G. G., Sarfo, F. O., Mensah, T., & Vlachopoulos, D. (2021). Online instructional experiences in an uncharted field – The challenges of student-teachers of a Ghanaian college of education. *Journal of Digital Learning in Teacher Education*, 37(2), 99–110. <https://doi.org/10.1080/21532974.2021.1892553>
- Del Arco, I., Silva, P., & Flores, O. (2021). University teaching in times of confinement: The light and shadows of compulsory online learning. *Sustainability*, 13(1), 375. <https://doi.org/10.3390/su13010375>
- Dhawan, S. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems*, 49(1), 5–22. <https://doi.org/10.1177/0047239520934018>
- Dilling, J., Varga, M. A., & Mandernach, B. J. (2020). Comparing teaching and social presence in traditional and online community college learning environments. *Community College Journal of Research and Practice*, 44(10–12), 854–869. <https://doi.org/10.1080/10668926.2020.1752852>
- Fauzi, I., & Khusuma, I. H. S. (2020). Teachers' elementary school in online learning of COVID-19 pandemic conditions. *Jurnal Iqra': Kajian Ilmu Pendidikan*, 5(1), 58–70. <https://doi.org/10.25217/ji.v5i1.914>
- Gambino, A., & Flemming, R. (2021). Ladies leading ladies who lead ladies: Female mentorship and support in higher education during the COVID-19 pandemic. In Schnackenberg, H. L. & Simard, D. A (Eds.), *Women and leadership in higher education during global crises* (pp. 1–14). IGI Global.
- Ganiyu, R. S., & Makinde, S. O. (2021). Towards value re-orientation of primary school female teachers on the role of ICT in teaching and learning in Oyo Town, Nigeria. *Nigerian Online Journal of Educational Sciences and Technology*, 3(1), 66–72. <http://nojest.unilag.edu.ng/article/view/1216/965>
- González, C. C., Rodríguez, C. L., & Segovia, J. D. (2021). Learning from the flight of the geese: The life stories of two female principals who lead in vulnerable contexts. *Management in Education*. <https://doi.org/10.1177/0892020621994315>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning*. <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Hoshier, M., Dunlap, J., Li, J., & Friedel, J. N. (2014). Examining the effectiveness of student authentication and authenticity in online learning at community colleges. *Community College Journal of Research and Practice*, 38(4), 337–345. <https://doi.org/10.1080/10668926.2012.755649>
- Howie, P., & Bagnall, R. (2013). A beautiful metaphor: Transformative learning theory. *International Journal of Lifelong Education*, 32(6), 816–836. <https://doi.org/10.1080/02601370.2013.817486>

- Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15 (9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Johnson, S. G., & Berge, Z. (2012). Online education in the community college. *Community College Journal of Research and Practice*, 36(11), 897–902. <https://doi.org/10.1080/10668920903323948>
- Kamenetz, A. (2020). 'Panic-gogy': Teaching online classes during the Coronavirus Pandemic. <https://www.npr.org/2020/03/19/817885991/panic-gogy-teaching-online-classes-during-the-coronavirus-pandemic>
- Kwapong, O. A. T. F. (2007). Widening access to tertiary education for women in Ghana through distance education. *Turkish Online Journal of Distance Education-TOJDE*, 8(4), 65–69.
- Kwapong, O. A. T. F. (2010). Internet usage among women in a deprived area in Africa. *Far East Journal of Mathematical Education*, 4(2), pps. 178–188.
- Kwapong, O. A. T. F. (2019). African women, technology and ICTs, In Yakob-Haliso, O & Falola, T. (Eds.). *The Palgrave Handbook of African Women's Studies*, (pp. 1–19). London: Palgrave Macmillan.
- Kwapong, O. A. T. F. (2021). E-learning experiences of adults during Covid-19 outbreak: The moderating effect of gender. *Journal of Adult and Continuing Education*, 14779714211024678.
- Lakhal, S., & Khechine, H. (2021). Technological factors of students' persistence in online courses in higher education: The moderating role of gender, age and prior online course experience. *Education and Information Technologies*, 26 (3), 3347–3373. <https://doi.org/10.1007/s10639-020-10407-w>
- Lau, J., Yang, B., & Dasgupta, R. (2020). Will the coronavirus make online education go viral?. <https://www.timeshighereducation.com/features/will-coronavirus-make-online-education-go-viral#survey-answer>
- Lazarevic, B., & Bentz, D. (2021). Student perception of stress in online and face-to-face learning: The exploration of stress determinants. *American Journal of Distance Education*, 35(1), 2–15. <https://doi.org/10.1080/08923647.2020.1748491>
- Legusov, O., Raby, R. L., Mou, L., Gómez-Gajardo, F., & Zhou, Y. (2021). How community colleges and other TVET institutions contribute to the United Nations sustainable development goals. *Journal of Further and Higher Education*, 46(1), 89–106. <https://doi.org/10.1080/0309877X.2021.1887463>
- Mandache, L. A., Browning, A., & Bletzer, K. (2021). Zooming in on the COVID-19 pandemic in community college classrooms: Experiments with a pedagogy of place in anthropology courses. *Teaching and Learning Anthropology*, 4 (1), 48–66. <https://doi.org/10.5070/T34151839>
- Mayaki, B. (2020). Ghanaian Catholic education authorities praise Ghana learning TV as “beneficial” to Catholic students. <https://www.vaticannews.va/en/world/news/2020-05/catholic-schools-laud-ghanas-distance-learning-program.html>
- Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco: Jossey-Bass.
- Mezirow, J. (1994). Understanding transformation theory. *Adult Education Quarterly*, 44(4), 222–232. <https://doi.org/10.1177/074171369404400403>
- Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, 197(74), 5–12. <https://doi.org/10.1002/ace.7401>
- Mezirow, J. (2000). J. Mezirow and Associates (Eds), Learning to think like an adult: Core concepts of transformation theory. In *Learning as transformation: Critical perspectives on a theory in progress* (pp. 3–33). Jossey-Bass:.
- Moe, M., & Ranjendran, V. (2020). Dawn of the age of digital learning: An acceleration of trends that have been building for years. <https://medium.com/gsv-ventures/dawn-of-the-age-of-digital-learning-4c4e38784226>
- Mohammed, W. F. (2020). What COVID-19 reveals about educational inequality in Ghana. <https://www.aljazeera.com/indepth/features/covid-19-reveals-educational-inequality-ghana-200407100729985.html>
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19–S4), S27. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>
- Ngai, C. S. B., Lee, W. M., Ng, P. P. K., & Wu, D. D. (2019). Innovating an integrated approach to collaborative eLearning practices in higher education: The case study of a corporate communication e-platform. *Studies in Higher Education*, 44(11), 1990–2010. <https://doi.org/10.1080/03075079.2018.1482266>
- Palacios, A. M., & Wood, J. L. (2016). Is online learning the silver bullet for men of color? An institutional-level analysis of the California community college system. *Community College Journal of Research and Practice*, 40(8), 643–655. <https://doi.org/10.1080/10668926.2015.1087893>
- Presbyterian Women's College of Education (n.d.). <https://pwce.edu.gh/our-history/> Retrieved May 25, 2021
- Prokes, C., & Housel, J. (2021). Community college student perceptions of remote learning shifts due to COVID-19. *Techtrends*, 65(4), 576–588. <https://doi.org/10.1007/s11528-021-00587-8>
- Raby, R. L. (2009). Defining the community college model. In Raby, R. L. & Valeau, E. J (Eds.), *Community college models* (pp. 3–19). Dordrecht: Springer. https://doi.org/10.1007/978-1-4020-9477-4_1
- Raby, R. L. (2019). Community colleges and global counterparts: Institutional changes to support massification of higher education. In Gaulee, U (Ed.), *Global adaptations of community college infrastructure* (pp. 12–23). IGI Global.
- Raby, R. L., & Valeau, E. J. (2007). Community college international education: Looking back to forecast the future. *New Directions for Community Colleges*, 138(138), 5–14. <https://doi.org/10.1002/cc.276>

- Raby, R. L., & Zhang, Y. L. (2021). Learning from COVID-19: Challenges and opportunities for international education in community colleges. *Community College Journal of Research and Practice*, 46(1–2), 41–48. <https://doi.org/10.1080/10668926.2021.1961924>
- Rivers, J. K. (2013). *Towards the consideration of the US community college model to address the need for higher education reforms in Ghana*. <https://digitalcommons.du.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1998&context=etd> Retrieved August 10, 2021
- Ryan, S., Kaufman, J., Greenhouse, J., She, R., & Shi, J. (2016). The effectiveness of blended online learning courses at the community college level. *Community College Journal of Research and Practice*, 40(4), 285–298. <https://doi.org/10.1080/10668926.2015.1044584>
- Smith, E. E. (2020). *5 ways to keep human connections when moving learning online due to coronavirus*. <https://theconversation.com/5-ways-to-keep-human-connections-when-moving-learning-online-due-to-coronavirus-134351?utm>
- Smith, D. R., & Ayers, D. F. (2006). Culturally responsive pedagogy and online learning: Implications for the globalized community college. *Community College Journal of Research and Practice*, 30(5–6), 401–415. <https://doi.org/10.1080/10668920500442125>
- Sublett, C. (2019). What do we know about online coursetaking, persistence, transfer, and degree completion among community college students? *Community College Journal of Research and Practice*, 43(12), 813–828. <https://doi.org/10.1080/10668926.2018.1530620>
- Sullivan, P. (2002). “It’s easier to be yourself when you are invisible”: Female college students discuss their online classroom experiences. *Innovative Higher Education*, 27(2), 129–144. <https://doi.org/10.1023/A:1021109410893>
- Tang, H. H., Dang, B. Y., Raby, R. L., & Yeung, J. W. (2021). Sustaining liberal education by online learning in the era of global crises: The case of community colleges in COVID-19 Hong Kong. In R. Y. Chan, K. Bista, & R. M. Allen (Eds.), *Online teaching and learning in higher education during COVID-19* (pp. 181–198). Routledge.
- Taylor, E. W. (1998). *The theory of practice of transformative learning: A Critical review*, 374 (p. 90). Office of Educational Research and Improvement. <https://files.eric.ed.gov/fulltext/ED423422.pdf>
- UNESCO. (2020a). *Adverse consequences of school closures*. <https://en.unesco.org/covid19/educationresponse/consequences>
- UNESCO (2020b). *Half of world’s student population not attending school: UNESCO launches global coalition to accelerate deployment of remote learning solutions*. <https://en.unesco.org/news/half-worlds-student-population-not-attending-school-unesco-launches-global-coalition-accelerate>
- Valeau, E. J., & Raby, R. L. (2018). Community colleges and global counterparts as evolving forms. In R. Latiner Raby & E. Valeau (Eds.), *Handbook of comparative studies on community colleges and global counterparts* (pp. 1–13). Springer International Handbooks of Education. https://doi.org/10.1007/978-3-319-38909-7_53-2
- Yu, Z. (2021). The effects of gender, educational level, and personality on online learning outcomes during the COVID-19 pandemic. *International Journal of Educational Technology in Higher Education*, 18(1), 1–17. <https://doi.org/10.1186/s41239-021-00252-3>