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Online student engagement in times of emergency: Listening to the voices of students

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Abstract

The closure of schools and colleges worldwide, as a result of the COVID-19 lockdown and stay-at-home protocols, were timely actions given the surge in infection rates. It became immediately necessary for innovative strategies to be put in place to engage students while they remained at home. In Ghana, many traditional universities adopted the use of online learning tools to promote learning amongst their students during this period of uncertainty. In this exploratory case study, I explore the experiences of final year undergraduate students ($N = 18$) in the University of Ghana with the intention of examining: (1) the various strategies adopted by lecturers to engage students in online learning during this time when they were at home; (2) the challenges the students experienced; and (3) the students' views on ways of promoting effective student online learning engagement during future emergencies. Three strategies were identified by the students as being used by the lecturers for online learning engagement, namely videoconferencing, use of discussion boards, and use of regular assignments. It was found that the students experienced manifold engagement challenges in online learning including data and network problems, technical difficulties, assessment overload, as well as administrative issues. In order to ensure effective student online learning engagement in future national emergencies, it was suggested that resources such as internet facilities should be made available to students; assessment load should be reduced while interactive and active online learning engagement strategies are prioritized; and administrative support should be offered to students. The study's findings have significant implications for the planning, design and the implementation of online learning programmes in higher education.

Keywords

Student engagement, online learning, national emergency, COVID-19, higher education, Ghana

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Introduction

Globally, the novel coronavirus has impacted people's lives in unimaginable ways. There have been many fatalities necessitating change in the lifestyles of all people. In the education sector, the impact of the virus has been significant prompting unprecedented measures including temporary closure of educational institutions in many countries. Various governments imposed lockdown, stay-at-home and social distancing protocols to curtail the spread of the virus. Under the hashtag#-stopthemovementstopthespread, many countries encouraged or impelled their people to remain at home while they wrestle against time to find a cure and/or vaccine for the virus. At their inception, the measures were disconcerting to say the least, in the sense that they were going to disrupt learning in schools and, by implication, the academic calendar. As a result, there were discussions in many quarters about ways to engage students in the wake of the prevailing circumstances. In Ghana, concerns were raised by many stakeholders in higher education about how best to continually promote quality teaching and learning in this emergency era. With the rising number of infection cases, there was an urgent need for universities all over the country to identify and employ innovative tools to stimulate students' interest in learning while the lockdown remained imposed. As has been noted by Murphy (2020), "following the logic of the exception—that extraordinary times call for extraordinary measures—one common trend in education systems around the world has been to respond to the pandemic with 'emergency e-learning' protocols, marking the rapid transition of face-to-face classes to online learning systems" (p. 1). While in many universities in Ghana, there is a history of leveraging online teaching and learning tools to promote student engagement, the current pandemic and its ensuing > measures have impelled a wider acceptance and use of these tools. Despite the profound benefits of employing online teaching and learning tools – in the form of accessibility, affordability, flexibility, learning pedagogy, and life-long learning (Dhawan, 2020) – in promoting student engagement, the online learning environment presents its own unique challenges to teaching and learning. As Quong, Snider and Early (2018) note:

> In the online environment, students and teachers are no longer confined to one room; yet, the lack of face-to-face interactions challenges collaboration, interaction, and knowledgesharing from instructor to student and from student to student. Communicating through digital space often lacks human-like nuances that contribute to community building in the classroom and enrich the affective aspects of learning. There is also a potential for feeling disconnected in the online learning environment (p. 80).

From Quong et al.'s observation about the snag of online learning, it appears that such environments may hinder student engagement. The focus of student engagement (bearing in mind the vagueness of the term) in this study is on engagement to form individual understanding (Ashwin and McVitty, 2015). In this sense engaged students are those who take ownership for their own learning, work together with staff on ensuring academic success and accept the role of engaged and willing apprentice to an academic master (Velden, 2013: 78). Therefore, if collaboration, interaction, and knowledge sharing between the teacher and students are compromised in online learning environments, it could affect the latter's interest in such learning spaces, which may ultimately affect their academic success. During this tough and uncertain time, the concern is not about whether online teaching–learning methods can provide quality education; but rather how academic institutions will be able to adopt online learning in such a massive manner (Carey, 2020 cited in Dhawan, 2020: 4) to promote student engagement and, by extension, academic success.

Research has shown that student engagement is positively related to academic performance, and that disengagement leads to poor academic performance in a variety of subjects

(Sirin and Rogers-Sirin, 2004; Kelly, 2008). Therefore strategies that foster student engagement in online learning are those that promote academic challenge, active and collaborative learning, student-faculty interaction, and enriching educational experiences (Kuh, 2001). The essential question at this juncture is what strategies promote student engagement in online learning? Paulsen and McCormick (2020: 21) maintain that the student engagement perspective rests on some simple propositions: student learning is related to the time and effort students devote to their studies; students benefit from a collegiate environment that promotes and supports their success; and colleges, universities, and individual faculty members can and should promote student success by emphasizing empirically supported effective educational practices in and outside the classroom. Although student engagement has been variously conceptualised, the common understanding is to focus on the things that the student does to achieve learning (Kuh, 2001; Fredricks, Blumenfeld and Paris, 2004; Kahu, 2013; Tai, Bellingham, Lang and Dawson, 2019). In distance learning or online learning delivery, engagement entails a duration of students interacting with materials to produce new knowledge and skills (Dixson, 2015 cited in Das, Nguyen, Nguyen, Nomikoudis and Dung, 2019: 371). Given this conceptualisation, the pervasive questions at this moment are: what students' behaviours promote their engagement in online learning? And, how can lecturers stimulate students to engage in such behaviours?

It is important to note that student engagement "can be manifested in the development of critical thinking skills, higher grades and a general embracing of learning by taking responsibility and actions to achieve intrinsically motivated goals" (Shea, Stone and Delahunty, 2015: 43); and the time and effort spent by students in online teaching and learning activities as well the interactions that occur between the student and peers, teachers and educational institution (Fredricks et al., 2004; Coates, 2008; Kuh, 2009; Lam et al., 2012; Kahu, 2013; Lester, 2013). Students' attendance in online class sessions, doing and submitting assignments, and other out-of school activities are all indicators of behaviours that promote engagement of students. The presence of the teacher in online learning platforms is crucial to the establishment of student engagement in online learning formats. Richardson, Koehler, Besser, Carkurlu, Lim and Miller (2015) define instructor presence as "the specific actions and behaviours taken by the instructor that project him/herself as a real person" (p. 259). Similarly, Muir et al. (2019) suggest that the presence of the online teacher is vital for promoting interaction and connectedness between teacher and student, and student and student. In a study conducted by Martin and Bolliger (2018) on the importance of student engagement strategies to online students, it was found that learners mostly valued instructor-student engagement strategies and felt a sense of belonging when they interacted with instructors who could be accessed through multiple means. The student's ability to appropriately organise course materials and assignments (Ingram, 2005) were found to have an impact on the level of engagement students had in online courses (Holzweiss et al., 2014).

While certain strategies could encourage students' online learning engagement, other factors could disengage them from their learning. It is true that students envision ideal online learning experiences, which could ultimately promote their engagement in learning, thereby enhancing their academic success. Therefore, by creating an environment conducive to learning and by encouraging interaction between teacher and students and among students, students may participate fully in teaching and learning activities. Since the onset of the COVID-19 pandemic, several studies have been conducted around the world about students' experiences of the mandatory online learning instituted in many higher education institutions (Selvanathan et al., 2020; Rahman, 2021; Islam et al., 2021); yet little is known of students' experiences of engagement in online learning during their stay-at-home. Therefore, it has become imperative to

explore the unique experiences of students' online learning engagement. Using the Department of Adult Education and Human Resource Studies (DAEHRS), University of Ghana as a case, it is important to identify the strategies employed by lecturers to engage students in online learning; students' online learning engagement challenges; and their views on ways of enhancing students' online learning engagement in higher education during future emergencies, which would eventually lead to quality online learning experiences for students. This article has seven sections. First, an introduction has been provided that familiarizes the reader with the topic under investigation; followed by the problem statement and research questions. In the fourth section, I discuss the theory undergirding the study. The methodology, findings and discussion, and conclusion sections follow in that order.

Statement of the problem

Due to the threat of the spread of the coronavirus (COVID-19), students in higher education in Ghana have been restricted to their homes. As a result, a distinctive approach to pedagogy emerged as a norm in the opening months of 2020 (Williamson et al., 2020). This approach to pedagogy situates the student as being distant from the physical school environment. Hence, technologies that bridge such distance and promotes effective learning are being employed on a massive scale in many higher education institutions in the country. There is, however, a long history of distance education, remote and online teaching in the country's higher education sector, but this has become even more salient in recent times. The reliance of many of the country's universities on traditional face-to-face classroom sessions left them utterly unprepared for the sudden shift to online teaching and learning and this may have created a feeling of disconnection on the student's part from the learning environment. By deduction, this may create a gap between the teacher and students. This gap, if not properly mitigated, may affect the student's interest in lessons, which may ultimately lead to withdrawal. Research also demonstrates that student engagement in online courses remains mixed with relatively low retention rates as compared to courses delivered through the face-to-face mode (Dietz-Uhler et al., 2007; Kahn et al., 2017). This is because the online learning environment places challenges on self-regulatory capacities of students, and students who have difficulties with self-regulating their learning will face challenges in engaging as learners (Dabbagh and Kitsantas, 2004 in Kahn et al., 2017). Thus, an understanding of the unique experiences of students with regard to their engagement in online learning, particularly in this time of emergency, is vital to ensuring that appropriate strategies are deployed to mitigate the various challenges that may confront them. Furthermore, given that previous studies on student's online learning engagement have employed quantitative research methods (Dixson, 2010, 2015; Rajabalee et al., 2020), it is important and timely to 'expand the research base to include more qualitative studies' (Ahrari et al., 2019: 612) to unearth first-hand online engagement experiences of students. It is against this backdrop that this present study sought to explore students' experiences of learning engagement in online teaching and learning at the Department of Adult Education and Human Resource Studies (DAEHRS) at the University of Ghana in the wake of the COVID-19 led shift to online learning. To achieve the main aim of this study, the following research questions were pursued:

1. What strategies are employed to engage final year students in online learning at the DAEHRS?
2. What challenges confront the final year students in online learning engagement at the DAEHRS?

3. What are the views of the students on ways of enhancing students' online learning engagement in universities during future emergencies?

Theoretical perspective – Transactional distance Theory

There is ample evidence to suggest that the dropout rate for online students is high compared to dropout rates in traditional courses (Simpson, 2003; Aragon and Johnson, 2008; Park and Choi, 2009; Shea and Bidjerano, 2010). Benson and Samarawickrema (2009) opine that there is a physical gap and a potential pedagogical gap that can occur for the learners, a transactional distance (TD) that can be present in online courses (Quong et al., 2018: 80). Two important terms, namely 'transaction' – interplay of the behaviours of teachers and learners in environments in which they are in separate places and have to communicate through a technology (Moore, 2018: 33) – and 'distance' – a psychological and communications gap (Moore, 1973) – can be identified. According to Moore (1993), transactional distance can lead to perceived cognitive and emotional distance due to the geographical separation between learners and instructors (Bolliger and Halupa, 2018).

As a major theory in distance education, TD is interactionist in perspective and is defined by Moore (1991) as the "distance of understandings and perceptions, caused in part by the geographic distance, that has to be overcome by teachers, learners and educational organizations if effective, deliberate, planned learning is to occur" (p. 2). Crucial to transactional distance is the interplay of three elements – dialogue, structure and autonomy. Structure refers to elements of the course's design, such as learning objectives, activities, assignments, planned interaction, and evaluation (Moore and Kearsley, 1996 cited in Stein et al., 2005). Specifically, structure refers to the flexibility of the course design to meet the needs of diverse learners. Dialogue – which is the foundation of Moore's theory of TD – refers to the communication between instructor and learner and it is taken further than a simple two-way communication with consideration given to all kinds of interaction aimed at solving the learners' problems (Giossos et al., 2009). Moore's (1997) focus is not on the frequency but the quality of the interactions as well as the extent to which it enables distance learners to resolve the learning problems they may be experiencing (cited in Kassandrinou et al., 2014). Interaction is not only between teacher and students but also between students and must essentially be constructive in nature to be productive. Learner autonomy or self-direction, on the other hand, is the extent to which the learner and not the teachers determine the goals, learning experiences and evaluation decisions in the teaching and learning encounter (Murphy and Rodríguez-Manzanares, 2008). Learner autonomy is about the initiative, decision making powers and responsibility of the learner in the learning process. Moore and Kearsley (1996) contend that successful teaching in distance/online learning environments is dependent on the extent to which the instructor and institution can provide appropriate levels of structure as well as appropriate frequency and quality of instructor-student dialogue taking into consideration a learner's autonomy.

According to Bolliger and Halupa (2018), in online education, transactional distance can be bridged through student engagement and effective teaching strategies. The authors concede that effective teaching strategies could reduce the distance between the teacher and students; however, it is through engagement that students may find teaching and learning experiences attractive enough to participate in them. Therefore, student engagement precedes any other instructional intervention in the classroom. In order to adequately conceptualise student engagement in this inquiry, the author turns to Bond et al. (2020: 3) definition that student engagement is the energy and effort that students employ within their learning community, observable via any number of behavioural, cognitive or affective indicators across a continuum. This definition highlights the interplay of key factors that promote student engagement. Paramount to this study is the essence of interaction or what Bond

et al. (2020) refer to as relationships. Student interactions occur at different levels of the teaching and learning situation – with teachers, peers, content, and even the learning environment (a conducive environment for learning fosters engagement). Anderson (2003) is of the view that interaction is instrumental in student engagement and should be fostered in the online learning environment (cited in Martin and Bolliger, 2018). The greater the interaction the more the student becomes engaged in his/her learning.

Method

Research approach and design

The closure of universities in Ghana and all over the world as a result of the COVID-19 pandemic-led restrictions implied that lecturers had to resort to the use of online learning tools to promote student engagement. In order to capture the rich experiences of the students' online learning activities and how they are engaged in the entire teaching and learning situation, the qualitative research approach was adopted to provide in-depth accounts from the students. Situated within the interpretivist paradigm, the concern of this study was to 'understand the complex world of lived experience' (Schwandt, 1998: 221) of the students with regard to online learning engagement. As noted by McChesney and Aldridge (2019), the knowledge arising from interpretivist research is integrally linked to the participants and the context of the research, which implies that its products are not universally applicable theories or laws, but rather rich and contextually situated understandings. In line with the research approach, paradigm and objectives of this study, the case study research design was employed. Case study research, according to Creswell (2014), "explores a real-life, contemporary bounded system (a case) or multiple-bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information" (p. 97). The allure of case study research lies in the potential of the findings to generate insight into how the phenomenon actually occurs within a given context (Farquhar, 2013). The idea behind this present study is not to generalise the finding but to provide a useful insight into how students in the college are engaged online and their ensuing experiences in that regard.

Context and participants

The context – a unique environment of a university with interrelated conditions and factors that affect the adoption of innovative learning (Mirata, Hirt, Bergamin and van der Westhuizen, 2020) – is crucial to understanding students' experiences with the sudden shift to online teaching and learning. The study took place at University of Ghana where the participants are students in the final year (4th year) of a Bachelor Arts in Adult Education degree. The purposive sampling technique was adopted for the study. In purposive sampling, the researcher handpicks the cases to be included in the sample on the basis of their judgment of their typicality or possession of the particular characteristics being sought (Cohen et al., 2007: 115). Sandelowski (1996) recommends that qualitative sample sizes are large enough to enable 'new and richly textured understanding' of the phenomenon under study to unfold, but small enough to permit 'deep case oriented analysis' (p. 183). The purposive selection of participants for this study comprised two phases of decision making, namely the inclusion criteria and data saturation.

As has been noted by Merriam (2002), to begin purposive sampling, the researcher has to determine what criteria are essential in choosing who is to be interviewed or what sites are to be

observed. Therefore, in the first phase of sampling for this study, participants who met the following selection criteria were identified:

1. Frequency of visits to the platform for each course – students were expected to visit the platform at least twice a week.
2. Frequency of interaction – in addition to the visits, students were expected to participate in the various interactions on the platform through comments, questions, suggestions, etc. at least twice a week.
3. Frequency of task commission and completion – students were expected to complete assigned tasks within the prescribed time frame.
4. The student must be willing to participate in the study.

In all, 38 students met the various criteria. The second phase of sampling entailed the principle of data saturation. When used in the broader context, [data] saturation refers to the point in data collection when no additional issues or insights are identified and data begin to repeat so that further data collection is redundant, signifying that an adequate sample size is reached (Hennink and Kaiser, 2021: 2). In this study, data saturation was embedded in an iterative process of concurrently sampling, collecting data, and analyzing data (Sandelowski, 1995), whereby data continuously informed sampling until saturation (Hennink and Kaiser, 2021). Data saturation in this study was reached during the 18th interview. Therefore, from the 38 initially identified participants who met the selection criteria, 18 students – comprising nine males and nine females between the ages of 21–26 – participated in the study.

With respect to ethical considerations, the names of the students are not published in order to ensure their anonymity; instead numbers are used to represent the various participants (e.g. Participant 1, 2, 3, etc.). Participants' confidentiality and voluntary participation in the study was assured.

Data collection

A focus group interview guide was developed for the purpose of data collection. This instrument was designed to engage students on the various issues of interest to this study. Due to the imposed social distancing protocols currently in place in Ghana, meeting the participants face-to-face for the interviews was avoided. Instead, the researcher resorted to the use of Zoom meetings to conduct and record the interviews. There were a total of three focus group interviews that comprised of six students in each group and lasted, on average, 40 min. The instrument was designed to elicit information on the online strategies adopted by lecturers to engage the students in learning and how those strategies promote the engagement of the latter, the challenges of students, and their views on how to enhance student engagement during such emergencies.

Data analysis and trustworthiness

According to Cohen, Manion and Morrison, qualitative data analysis involves organizing, accounting for and explaining the data (p. 461). In this present study, the thematic analysis method was employed for the study. The study relied on the definition of thematic analysis provided by Braun and Clarke (2006) – a method for identifying, analysing and reporting patterns (themes) within data. Braun and Clark's phases of thematic analysis are adopted for this study. First and foremost, the researcher had to familiarize himself with the data. Here, the researcher transcribed, read and re-read

the data while noting down some important ideas from the data. This was followed by identifying concepts inductively through the process of coding. Searching for themes represented the third phase of the analysis stage. Themes are categories that are then used to structure the data. In this study, these themes were not generated as a result of counting of words in the data but the result of themes examining constructs that occur in the data (Firmin, 2008). Subsequent to this phase, the themes were reviewed to ascertain the relationship to the codes as well as the entire data set. The researchers then defined and named the themes in order to enhance the relevance of each theme to the entire analysis. Finally, the related data were grouped around the themes and where necessary participants' verbatim accounts were provided to enhance the readers' understanding of the results of the study (see Table 1).

To ensure the trustworthiness of the analysis, I had to write down my reflections on the data in order to be aware of my subjectivities. This was done in order to ensure that the researcher had acted in good faith and that the study and its findings would not be swayed by my personal values or theoretical inclinations (Bryman, 2012). This process helped me to reflect on my beliefs about the problem under investigation, which facilitated the development of open and honest narratives from the participants. To determine the accuracy of the narratives that had been crafted, I sent a draft of the final report containing the themes and specific descriptions to the participants for the purpose of member checking. Their feedback helped to revise the various narratives.

Table 1. Examples of participants' coded responses.

Broad theme	Sub-theme	Participant response	Participant
Online student engagement strategies	Use of videoconferencing	We used videoconferencing platforms like zoom for lectures and it provided a platform through which we engaged with the lecturers. In my personal opinion, I think this videoconferencing encouraged participation.	Participant 16
	Use of discussion boards	The lecturers often used discussion forums to enable us to participate in the lessons. We are all able to share our views on the topic that is given by the lecturer. The feedback helps to shape our understanding.	Participant 7
	Regular assignments	They (lecturers) used various assignments on the Sakai platform.	Participant 10
Students' challenges of online learning engagement	Data and network issues	There are expensive data charges, which makes it difficult for us to participate sometimes.	Participant 1
	Technical issues	There were some difficulties in using sakai, especially difficulties of connecting to the system.	Participant 6
	Assessment overload	The assessments are many, to an extent that you won't have time to do personal studies	Participant 3
	Administrative challenges	The irregularities in lecture times due to issues either personal or general, meant finding the appropriate time to meet online was very stressful.	Participant 14

(continued)

Table 1. (continued)

Broad theme	Sub-theme	Participant response	Participant
Students' views on ways of enhancing student engagement in online learning in times of emergency	Making resources available to students	Ensuring that all students have access to the internet can help them participate in online learning.	Participant 10
	Teaching and learning issues	They (lecturers) have to reduce the rate of assignments and rather engage students in a chat or discussion form to know how best they understand the course of study	Participant 12
	Administrative support	If possible students should be oriented intensively on the use of online platforms for education because online education provides benefits in various forms; and provides students with the opportunity to access their lecture slides any time and at any place and even learn at their own pace.	Participant 2

Findings and discussion

In this section, the study's findings are presented and discussed under the following themes: online student engagement strategies; students' challenges of online learning engagement; and students' views on ways of enhancing student engagement in online learning in times of emergency.

Online student engagement strategies

This study is premised on the belief that the lecturer plays a significant role through the use of effective strategies to enhance the engagement of students in learning. The lecturer can employ a variety of strategies to promote students' engagement in learning. In this study, it was pertinent to identify the ways in which the students' interest in learning online was stimulated. When asked about the strategies used by the lecturers to promote their engagement in teaching and learning, the students relayed many experiences. The use of regular assignments and videoconferencing featured prominently in the responses given by the students.

Use of videoconferencing

As has been noted by Gillies (2008), "videoconferencing is a well-known facility, used in business and now increasingly in education, for bringing together – synchronously, visually, aurally – parties otherwise separated geographically" (p. 107). The participants in this study mentioned video-conferencing as one of the strategies used by the lecturers to engage them in learning. For instance Participant 16 averred that:

> *We used videoconferencing platforms like zoom for lectures and it provided a platform through which we engaged with the lecturers. In my personal opinion, I think this videoconferencing encouraged participation.*

Videoconferencing enhances the online social presence of both the lecturer and students that, according to Muir et al. (2019), is necessary for promoting interaction and connectedness between lecturer and student, and among students. Participant 17 shares his experience that aligns with the view of Muir et al. He notes that:

> *Some lecturers make use of only videoconferencing, which created a classroom environment for discussion.*

Campbell (2006) contends that interaction between students-to-students and students-instructor opens new opportunities for advancing the delivery of content. Furthermore, Biocca, Harms and Gregg (2001) and Hills (2005) observe that when a number of participants are involved in an educational interaction there is the potential to produce a social presence: the sense of being together with others and having a sense of engagement with them (Gillies, 2008). This strategy could help bridge the transactional distance between the students and the lecturer as a result of its ability to encourage interaction during the teaching and learning encounter.

Use of discussion boards

Here, the students indicated that some of their lecturers used discussion boards to enhance their engagement in learning. The Sakai LMS has some very important features notably the discussion forum and chat room. With these features, students are able to share their views on various topics thatare posted by the lecturer. Lecturers are then able to engage with students on their submissions through feedback. Commenting on the value of the discussion forum in their (students) learning, Participant 7 stated that:

> *The lecturers often used discussion forums to enable us to participate in the lessons. We are all able to share our views on the topic that is given by the lecturer. The feedback helps to shape our understanding.*

This participant's experience supports Thomas' (2002) contention that online discussion forums provide significant opportunities for students to actively engage in their learning process through participation (cited in Lima et al., 2019). The use of the Sakai LMS chat room was also mooted by the participants as one of the strategies employed by the lecturers to sustain their interest in the lessons. Participant 9, for instance, had this to say:

> *Others (lecturers) rely on chats and peer interaction in the sakai chat room as a method of discussion and answering questions.*

Chat rooms have the potential to promote interaction among students and instructors on given topics. Chat platforms (e.g. WhatsApp) promote "dialogue between students, whether spontaneous or directed by the teachers [and] creates an atmosphere of cooperation, solidarity, and coming together to solve problems and deal with challenges" (Bouhnik et al., 2014: 229). When students engage in chats with their colleagues and lecturers, they are able to gain considerable understanding of subject-matter through collaborative learning.

Regular assignments

In online learning, the need to continually stimulate the interest of students in learning is one major concern to educational institutions. Students' learning inactivity at home could lead to passivity, disinterest and subsequent withdrawal from online learning programmes. Therefore, one way to ensure that students remain active and engaged in their learning is through the use of homework assignments. The participants in this study indicated that regular assignments were used to promote their engagement in teaching and learning. Participants 2, 10 and 11, respectively, made the following comments:

> *Regular assignments on the platform (Sakai LMS) were also made available such as the Sakai chat room.*
>
> *They (lecturers) used various assignments on the Sakai platform.*
>
> *Most of my lecturers utilised regular assignments to get us interested in the courses.*

Homework assignments serve several purposes. Epstein and Van Voorhis (2001) found that students performed better in school when they spent more time in general on their homework. Cadime, Cruz, Silva and Ribeiro (2017) similarly maintain that homework assignments not only contribute to academic performance, at a general or specific level, but have also been associated with the students' self-regulation abilities.

Students' challenges of online learning engagement

Transitioning from face-to-face to online learning comes with several challenges. In this study, the students expressed a myriad of challenges in their quest to participate fully in the online teaching and learning space. These challenges included data and network issues, technical issues, assessment overload and administrative issues.

Data and network issues

The biggest challenge in online education in developing countries probably lies in ensuring that certain preconditions are met for e-learning, such as access to ICT tools and network infrastructure (Aung and Khaing, 2015). In Ghana, there are several telecommunications companies offering internet services to the many customers. However, with the high cost of data to surf the internet and the need to use videoconferencing for lessons (which consumes a lot of data), some students may be disengaged from the online teaching and learning. Participant 4, in expressing his experiences with the cost implications of learning online, argued that: *There is too much data consumption with regards to the videoconferencing and you know that data is very expensive in this country.*

This view was shared by Participant 1:

> *There are also expensive data charges, which makes it difficult for us to participate sometimes.*

Slow and unreliable network connections affect the quality of online learning (Bean et al., 2019). Kasse and Balunywa (2013) reported major infrastructural weaknesses such as the unavailability of internet connectivity as a challenge in promoting effective online learning in some African countries. Poor internet service quality was reported by Folorunso, Ogunseye and Sharma (2006) as

posing a threat to effective technology diffusion in higher education in Nigeria. Participant 18 shares his experience as follows:

There are unstable networks and traffic overload on the university server, which impede learning.

Participant 14 added his voice to the discussion:

Take the videoconferencing, for example, the common problem of network challenges make the whole process very tiresome since during teaching I may miss certain explanations due to unstable connection.

In agreeing to the above views, Participant 8 stated that:

Network is sometimes slow and with that it is hard to keep up at times.

The affordance of online higher education is to promote interaction between the students and lecturers through the use of the internet. However, the experiences of Participants 14 and 8 seem to suggest that the transactional distance between the students and lecturers resulting from poor internet access leading to difficulties in accessing the online learning platform may be widened. Poor internet connectivity can affect teaching and learning in many respects. For instance, instructions can be delayed as a result of poor internet connections (Srichanyachon, 2014). Delay in instruction may lead to lapses in dialogue, which may ultimately result in a perceived cognitive distance.

Technical issues

The Sakai Learning Management System is used as the main interface for faculty-student interaction in the University. The use of Learning Management Systems (LMSs) helps to manage learning events, contents, and learners and administer and manage the learning processes and the performance of the learners by means of recording the activities on the computers and displaying statistics and plans (Alenezi, 2018: 1). LMSs also facilitate the management of teaching and learning; however, some participants in this study expressed technical difficulties with its use. This corroborates the findings of Song et al. (2004 cited in Dhawan, 2020) where technical problems was mentioned as one of the factors hindering effective online learning. Participant 10, for instance, said that: *the Sakai link goes off without notification.* Other participants had similar experiences:

There were some difficulties in using sakai especially difficulties of connecting to the system (Participant 6)

Sometimes the sakai system freezes and I have to try to reconnect (Participant 4)

Such difficulties could derail the interest of the student in participating in the online learning platform. This is supported by Alenezi (2018) who argues that poor connectivity slows down learning processes and tampers with features such as online conferencing, which only works with strong networks.

Assessment 'overload'

Learning remotely requires students to put in more effort and work to achieve the desired goals. Due to the nature of online learning – where there is no physical contact between students and

lecturers – there is a need to continually engage the former using a variety of activities. Providing frequent assessment is one way to promote student engagement in teaching and learning in online education. Web-based assessment has the advantage of offering students flexibility and ease of access. While in this study it was revealed that a number of assignments were provided to students. They, however, complained that the number of assignments, coupled with the limited time to complete them, posed a serious threat to their engagement in the online teaching and learning.

> *We get more assignments with limited time to do them. Discussions are not bad but switching now is making it more demanding for us compared to the traditional class. (Participant 2)*
>
> *The assessments are many to an extent that you won't have time to do personal studies. (Participant 3)*
>
> *More and demanding assignments with little time to do it. And also the transition is still a problem on its own. (Participant 6)*

For these participants, the switch from regular face-to-face classroom sessions to the online learning format comes with some difficulties. Being confined to their homes as a result of the nationwide lockdown, students have to shuffle between personal, family, and academic demands. Kahu (2013: 767) describes this as 'life load', which "is the sum of all the pressures a student has in their life, including university", and is described as being a critical factor influencing online student engagement (cited in Farrell and Brunton, 2020). Their inability to submit the numerous assignments needed for completion of the course could adversely affect their engagement in the course. This aligns with the findings of Muir et al. (2019) in their study of students' experience of online learning over time where "a number of students mentioned that they were 'not as engaged' since they had assessment tasks due. There was a tendency to 'sacrifice' engagement in one course to focus on others to meet assessment requirements. However, if the assignments are engaging enough (for instance, relying on their personal experiences), it could engineer students' desire to complete them.

An engaging activity could, to some degree, help compensate for a student's lack of personal interest in the topic (Kahu, Nelson and Picton, 2017: 60). Participant 12 was of the view that the time for personal learning was inadequate because they spent most of their time completing the assignments. He noted that: *It looks like it is full of assignments so one does not get the time for personal learning.* Buck (2016) and Frey (2015) have argued that online student engagement requires a well-designed course that promotes interaction and social presence and creates a clear, purposeful learning journey; efficient use of students' limited time; linking learning activities to goals; building on existing understanding whilst addressing gaps in understandings; and providing immersive, real-world simulations or experiences (cited in Farrell and Brunton, 2020: 3). This finding has implications for the design of online learning experiences in the sense that lecturers should take into account the needs and personal circumstances of students when designing lessons.

Administrative challenges

The administrative aspect of the online teaching and learning encounter was reported by some of the participants as constituting a challenge to their engagement in learning. Issues such as scheduling and pacing of class sessions and decision making were identified by the participants as limiting their engagement in learning. The challenge of scheduling was explained by Participant 14 as follows:

> *The irregularities in lecture times due to issues either personal or general. Finding the appropriate time to meet online was very stressful.*

In online learning, many students struggle to follow a regular study schedule due to demands of work, family and study (Blackmon and Major, 2012; Brown et al., 2015; Buck, 2016; Farrell and Brunton, 2020; Zembylas et al., 2008). Therefore, the structure of the curriculum should be designed in a way to accommodate the various exigencies (including students' non-academic demands) of studying online. Participant 16 shared a personal challenge:

> *Some lecturers decided to grade the students' presence in online videoconferencing without discussing with us. But we all can't be online at the same time.*

The point has been made earlier on that the structure of the course design has the tendency to impact on students' transactional distance in online learning. It can be discerned from the experiences of both participants that attempts were made by the lecturers to promote synchronous teaching and learning in the online platform. It has also been stated earlier on that a conscious effort should be made in online learning to promote asynchronous learning. The findings from Wongwatkit et al. (2020), Zhu et al. (2020) and Larmuseau et al. (2018) have established the importance of the e-learning environment in creating and maintaining positive learning attitudes, specifically an environment that considers student preferences and is adapted to specific learning situations (as cited in Garip et al., 2020). It is imperative that students are involved in decisions that affect their learning since their non-involvement could adversely affect their online learning engagement. This is consistent with Stefanou, Perencevich, DiCintio and Turner's (2004) approach to student autonomy, which proposes that lecturers can develop students' organizational autonomy by allowing them some freedom with regard to decision-making relative to classroom management issues (cited in Meyer, 2014). It can be argued that when lecturers "allow students to make some choices that better serve their needs, students develop ownership over the class as well as their learning" (Meyer, 2014: 51).

Students' views on ways of enhancing engagement in online education in times of emergency

Given the experiences of students in learning in an emergency such as this pandemic, it was necessary to explore their views on how to enhance student engagement in future emergencies. Their suggestions could inform the design and implementation of online teaching and learning for students during any future emergency.

Making resources available to students

The participants discussed the importance of making resources available to enhance future learning experiences of students during emergencies. The foci of their suggestions were twofold: making data available; and ensuring internet accessibility to students. Firstly, the participants suggested the need to make data available to students at affordable rates to enhance their engagement in teaching and learning. This suggestion is as a result of the reported high cost of data for surfing the internet. Given, the indispensability of the data in the online learning journey of the students, Participant 4 suggested that: *schools to provide data to their students on a weekly basis.* To achieve this, Participant 15 suggested that: *schools should negotiate with internet service providers for favourable data packages for their students.* Access to data for surfing the internet is key to promoting students' continued presence on the online learning platforms, which could ultimately lead to their participation in the various learning activities.

Making internet accessible to students was also mentioned as a way to provide adequate resources for effective student engagement in online teaching and learning. Participant 10 argued that:

Ensuring that all students have access to the internet can help them participate in online learning.

Access to the internet for learning is quite limited in some developing countries. Despite the proliferation of mobile phones (which could be used for learning) and other devices – including computers – Asunka (2008) notes that only five out of 22 students had access to a computer and internet connectivity at home. This is disturbing given the need to make teaching and learning accessible to all in emergency times through the use of online platforms. Therefore inadequate access to technology, studying materials and computers can leave students marginalized and anxious, which affect the online learning process (Queiros and De Villiers, 2016).

Teaching and learning issues

The instructor is important in determining student success in an online class (Tunks, 2012). His/her ability to communicate, form community, and deliver the appropriate lesson effectively makes all the difference in student learning outcomes (Kebritchi, Lipschuetz, and Santiague, 2017). The students in this study suggested that lecturers should make an effort to enhance the online course experience. To achieve this, it was suggested that assignments should be given in moderation to make way for other engaging activities.

They (lecturers) have to reduce the rate of assignments and rather engage students in a chat or discussion form to know how best they understand the course of study. (Participant 12)

This suggestion is in line with the findings of Revere and Kovach (2011) and Banna et al. (2015) that traditional technologies that foster learning engagement, such as discussion boards, chat sessions, blogs, wikis, group tasks, or peer assessment, all contribute to promoting student-to-student interaction in online courses. Abrami et al. (2011) and Banna et al. (2015) suggest the need for online instructors to invest sufficient time searching for scholarly reading and interactive instructional materials and designing well-thought-out assessments for the purpose of encouraging student-to-content engagement (as cited in Martin and Bolliger, 2018). It is worth noting that engaged students devote more time learning (Kuh, 2007) "instead of only spending enough time to get by on the assignments" (Meyer, 2014: 50). There was also a recommendation that online lessons be made interactive to enhance the participation of students. Participant 3 stated that:

The sessions should be interactive enough for all students to participate.

The need for interaction was also relayed by Participant 11.

Every mode of online teaching and learning, especially the videoconferencing, chats, and peer interaction, should be adequately synchronised to create an equal chance for every student to get the required understanding on a topic without missing out when one mode fails.

Dixson (2010) and King (2014) are of the view that consistent interaction with students at the individual and group levels help set academic expectations among students (cited in Martin and Bolliger, 2018). Interaction – one of the cardinal elements of the transactional distance

theory – should be more than a simple two-way communication aimed at solving the learners' problems (Giossos et al., 2009). The focus should be on the quality of interactions between the students and lecturer that is measured by the extent to which they help students resolve learning challenges (Moore, 1997). The lecturer's online presence could enhance students' active involvement in the courses (Gayton and McEwen, 2007).

It has been noted that some of the students complained about attempts by some of the lecturers to push for synchronous online teaching and learning. As a result, a suggestion was made for lecturers to record their online teaching sessions to enable those who couldn't be part of the sessions to also benefit.

> *Lecturers should always record the lecture while class is in session so that students struggling with internet connections can listen later.*

Recording of online lecture sessions can be useful to those students who cannot participate in live sessions due to certain unforeseen circumstances. It could likewise serve as a reference material for students during revision periods. In Borup et al.'s (2012) study of student perceptions of asynchronous video, it was found that asynchronous video "had a substantial impact on establishing the instructor's social presence" (Lowenthal and Dunlap, 2018: 12). Therefore, the suggestion that lecture sessions should be recorded is not far-fetched given that an instructor's presence online has the potential to stimulate students' engagement in learning. The frequency of online sessions was also brought up for discussion by Participant 12 who proposed that:

> *Meetings and discussions could be held more than once to ensure that everyone benefits.*

To ensure that students have meaningful online learning experiences, attention must be given to the design of the various courses. Whitehouse's (2008) reflection on the learning and pedagogical design aspects of a fourth-year elective course is relevant at this point. Whitehouse writes as follows:

> Students enrolled in e-learning subjects have to learn how to learn online as well as offline and make effective use of information communication technologies … I deliberately designed learning and assessment options that require my students to shut down their computers and go offline and outdoors to undertake activities of their choosing…(p. 11)

Administrative support

Today's students are seen as customers of universities and universities need effective measures to retain their loyalty (Martinez-Arguelles and Batalla-Busquets, 2016 cited in Pham, Limbu, Bui, Nguyen and Pham, 2019: 2). Retaining their loyalty entails ensuring their engagement in the various activities that enhances their learning. In online education, it is incumbent on universities to provide the necessary support for students' effective engagement in learning. As such, many universities are implementing student caring strategies in the same way as businesses are taking care of their customers (Stodnick and Rogers, 2008 cited in Pham et al., 2019: 2). In discussing how administrative structures in the university could contribute to enhancing student engagement in online learning, Participant 6 suggested that:

Students should be given an elaborate course calendar with syllabus. This will prep them for the whole semester because it elucidates the topics for the semester, learning objectives and outcomes as well as expectations from students. Student participation is very necessary too.

For Participant 6, an elaborate course calendar is essential in preparing students adequately for the entire semester's work including making them aware of the various learning objectives and the competencies that they should exhibit at the end of the semester. Aside from this, the effective use of the online learning platform was discussed by Participant 8 as follows:

Online platforms should not be used as an information stage only but rather the school can make them user-friendly. That way whenever students are required to use online platforms, it runs smoothly and much more effectively.

This participant's suggestion is crucial to future design and implementation of online learning. Online learning platforms, including LMSs, should be used to manage students' learning and not merely as a platform for providing information to students. In the study conducted by Dow (2008), participants indicated how difficult it was to gauge the social presence of their peers and instructors in the absence of any cohesive working structure and continued interactions (cited in Bawa, 2016: 7). Therefore, the use of the online learning platforms for the purpose of giving out information to students does not only widen the transactional distance between students and lecturers but also limits the former's effective engagement in learning.

To ensure that students enjoy their online learning experiences, it is imperative to have a stable learning platform that enables students to effectively participate in all learning activities. Participant 10 proposed, first of all, that an effort should be made to ensure that the Sakai LMS platform is stable. She mentioned that:

Maintaining a stable Sakai platform and providing assessment and returning them on time.

The other notable proposal from Participant 10 was that assessment feedback should be returned on time. Research suggests that students value quality and timely feedback on their work (King, 2014; Martin and Bolliger, 2018; Ragusa and Crampton, 2018). The shift from the conventional face-to-face classroom sessions to online learning due to an emergency is not an easy one. Students need ample time to acquaint themselves with their new reality. Therefore, students need to be adequately prepared to carry on with their learning in such circumstances. It is against this backdrop that Participant 2 suggested that intensive orientation should be held for students before the transition. She averred that:

If possible students should be oriented intensively on the use of online platforms for education because online education provides benefits in various forms and also provides students with the opportunity to access their lecture slides any time and at any place and even learn at their own pace.

Intensive orientation to this participant would provide relevant information regarding the intricacies of online learning and the strategies and behaviours needed for students to endure in their new reality. Orientation has been shown to establish social presence (Borup, Graham, and Velasquez, 2012). It is likewise an opportunity to expose students to the realities of online learning and the challenges that they may be fraught with. A study conducted by Bozarth et al. (2004) reveal the need for designers and lecturers to understand that students' own perceptions or misconceptions of

their technological skills becomes the biggest challenge as it makes students feel that an online orientation programme is not required (cited in Bawa, 2016: 7). Orientation should not be an imposition, but rather students should be made to realise its essence in their online learning journey.

Conclusion

This paper offers a unique insight into students' online learning engagement experiences at a Ghanaian university during the COVID-19 pandemic-led lockdown and stay-at-home protocols. It has been argued that, "achieving student engagement in the online class may be even more critical to keeping students enrolled and progressing through their academic programme" (Meyer, 2014: 95). I have used the theorization of online learning within a framework of Moore's (1973) transactional distance to extend our understanding of current student engagement practices and challenges as well as exploring students' suggestions for engaged online learning during future emergencies.

This paper acknowledges that due to the significance of student engagement, effective strategies are crucial to achieving the optimal engagement of students in online learning. This study has revealed that the lecturers adopted three strategies – videoconferencing, use of discussion boards and regular assignments – to promote students' online learning engagement. While these strategies have the potential to offer students with interactive and active learning opportunities, the students reported a myriad of challenges with regard to their online learning engagement. These challenges are not peculiar to the participants in this study but are indicative of the issues confronting many students in Sub-Saharan Africa. Indeed, the COVID-19 pandemic is a wake-up call to all stakeholders in education. The pandemic exposed the unpreparedness of many higher education institutions to gravitate towards the use of information technologies in teaching and learning. An emerging implication from this study is that there is need to actively involve students in planning and design of online learning since their views could be instrumental in sustaining their interest in online learning programmes.

It can be discerned from the findings that adequate learner support should be a part of any future emergency online learning programme. Online student support systems could help students in realizing that they are valued by the educational institution, which may positively affect their motivation levels in learning. A case has been made for the introduction of orientation sessions for students that enhances their preparedness and adaptation to the complexities of online learning. Future online learning platforms should essentially promote interaction and collaboration between lecturers and students as well as among the students. Interaction and collaboration are necessary for stimulating students' participation in online learning activities and hence helping to bridge the transactional distance between students and lecturers.

Implications for theory and practice

Like the traditional face-to-face teaching and learning environment, the online learning platform is bedevilled with its own challenges that threaten effective student engagement. From a theoretical perspective, the findings have further accentuated the physical and pedagogical gap between students and teachers that ensues as a result of online learning. This study, however, identifies a number of strategies that could help bridge this gap. The uniqueness of these strategies is that they emanated from the students who experience the challenges first-hand.

From a practical standpoint, it is hoped that this study would stimulate discussions in the higher education arena regarding student engagement in online learning. This is particularly useful in the sense that it is only through student engagement that effective learning can occur. It therefore

behooves on teachers to ensure that students are not merely involved in online learning, but actively and multi-dimensionally engaged, in order to benefit from favourable academic, social and personal outcomes from their educational experience (Kuh et al., 2008). To achieve this, the paper argues that while lecturers' online presence can facilitate students' presence in online learning platforms, it is also essential for promoting interaction and connectedness between lecturer and student, and among students. There is the need for institutions to ensure that lecturers' technical and pedagogic skills are on par with the demands of teaching online.

The findings are particularly useful in planning, designing and implementing future online learning programmes during national or global emergencies. They offer higher education institutions valuable information regarding the strategies that could promote or hinder student engagement in future emergency-induced online learning. Higher education institutions must recognize that effective student engagement in online learning is contingent on active and interactive strategies that should be explored and incorporated into the planning and design of online learning programmes. Structural influences within higher education institutions such as curriculum and assessment were found to negatively affect student engagement in online learning. This could inform administrators and faculty in higher education institutions to consider the personal circumstances of their students in the planning, design and implementation of online learning.

Students should be seen as partners in education and, accordingly, should be involved in planning, design and implementation processes of online learning experiences. At the national level, the study informs policymakers to ensure that support for online learning receives the needed attention in educational policies through the development of ICT infrastructure of universities, providing subsidies for students' internet access in the form of data plans, and an overall e-learning action plan in higher education based on the commitment to facilitating accessible, equitable and quality learning opportunities.

Limitations and future research

Although this study provides useful insights into students' engagement experiences of online learning, some limitations were identified. First, the study adopted a qualitative methodology – with a purposive sample of students – to investigate the problem of interest. As a result the findings cannot be generalized to other settings. Second, the study was biased in its selection of the participants focusing solely on the responses of students. However, due to the dyadic relationship between lecturers and students in online learning, it would have been beneficial to explore the experiences of both students and lecturers in order to get a complete understanding of the former's engagement in online learning. Based on these limitations, there are a number of areas in which future studies could be expanded to provide a comprehensive understanding of students' engagement in online learning. For instance, studies employing a quantitative methodology with a larger sample could provide generalizable findings relevant to other settings beyond Ghana.

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References

Abrami PC, Bernard RM, Bures EM, et al. (2011) Interaction in distance education and online learning: using evidence and theory to improve practice. *Journal of Computing in Higher Education* 23(2–3): 82–103. DOI: 10.1007/s12528-011-9043-x.

Anderson T (2003) Modes of interaction in distance education: recent developments and research questions. In: Moore MG and Anderson WG (eds) *Handbook of Distance Education*. Mahwah, NJ: Lawrence Erlbaum Associates Inc., pp. 129–144.

Aragon SR and Johnson ES (2008) Factors influencing completion and noncompletion of community college online courses. *The American Journal of Distance Education* 22(3): 146–158. DOI: 10.1080/08923640802239962.

Ashwin P and McVitty D (2015) The meanings of student engagement: implications for policies and practices. In: Curaj A, Matei L, Pricopie R, et al. (eds) *The European Higher Education Area*. Cham: Springer, 343–359.

Asunka S (2008) Online learning in higher education in sub-Saharan Africa: Ghanaian university students' experiences and perceptions. *International Review of Research in Open and Distance Learning* 9(3): 1–23. DOI: 10.19173/irrodl.v9i3.586.

Bean MV, Aldredge T, Chow K, et al. (2019) *Effective Practices for Online Tutoring*. Sacramento: Academic Senate for California Community Colleges.

Benson R and Samarawickrema G (2009) Addressing the context of e-learning: using transactional distance theory to inform design. *Distance Education* 30(1): 5–21.

Blackmon SJ and Major C (2012) Student experiences in online courses: a qualitative research synthesis. *Quarterly Review of Distance Education* 13(2): 77–85.

Bolliger DU and Halupa C (2018) Online student perceptions of engagement, transactional distance, and outcomes. *Distance Education* 39(3): 299–316. DOI: 10.1080/01587919.2018.1476845.

Bond M, Buntins K, Bedenlier S, et al. (2020) Mapping research in student engagement and educational technology in higher education: a systematic evidence map. *International Journal of Educational Technology in Higher Education* 17(1): 1–30. DOI: 10.1186/s41239-019-0176-8.

Borup J, West RE and Graham CR (2012) Improving online social presence through asynchronous video. *The Internet and Higher Education* 15: 195–203. DOI: 10.1016/j.iheduc.2011.11.001.

Bouhnik D, Deshen M and Gan R (2014) WhatsApp goes to school: Mobile instant messaging between teachers and students. *Journal of Information Technology Education: Research* 13(1): 217–231.

Bozarth J, Chapman DD and LaMonica L (2004) Preparing for distance learning: designing an online student orientation course. *Educational Technology & Society* 7(1): 87–106. Retrieved from: http://www.ifets.info/journals/7_1/10.pdf

Brown M, Hughes H, Keppell M, et al. (2015) Stories from students in their first semester of distance learning. *The International Review of Research in Open and Distance Learning* 16(4): 1–17.

Buck S (2016) In their own voices: study habits of distance education students. *Journal of Library & Information Services in Distance Learning* 10(3–4): 137–173. DOI: 10.1080/1533290X.2016.1206781.

Bryman A (2012) *Social Research Methods*. 4th edition. Oxford: Oxford University Press.

Cadime I, Cruz1 J, Silva C, et al. (2017) Homework self-regulation strategies: a gender and educational-level invariance analysis. *Psicologia: Reflexão e Crítica* 30(8): 1–10. DOI: 10.1186/s41155-017-0062-z.

Carey K (2020) Is everybody ready for the big migration to online college? Actually, no. The New York Times. https://www.nytimes.com

Cohen L, Manion L and Morrison K (2007) *Research Methods in Education*. 6th edition. Oxon: Routledge.

Creswell JW (2014) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. 4th edition. Thousand Oaks, CA: Sage.

Das AK, Nguyen QT, Nguyen AT, et al. (2019) Course redesign to incorporate flipped delivery: a business degree case in Vietnam. *Issues in Educational Research* 29(2): 363–383.

Dabbagh N and Kitsantas A (2004) Supporting self-regulation in student centred web-based learning environments. *International Journal of E-Learning* 3(1): 40–47.

Dhawan S (2020) Online learning: a panacea in the time of COVID-19 crisis. *Journal of Educational Technology Systems* 49(1): 5–22.

Dixson MD (2010) Creating effective student engagement in online courses: what do students find engaging? *Journal of the Scholarship of Teaching and Learning* 10(2): 1–13.

Dixson MD (2015) Measuring student engagement in the online course: The online student engagement scale (OSE). *Online Learning* 19(4): 143.

Dow M (2008) Implications of social presence for online learning: a case study of MLS students. *Journal of Education for Library and Information Science* 49(4): 238–239. Retrieved from: http://www.jstor.org.ezproxy.lib.purdue.edu/stable/40323753?seq=8

Epstein JL and Van Voorhis FL (2001) More than minutes: teachers' roles in designing homework. *Educational Psychologist* 36(3): 181–193.

Farrell O and Brunton J (2020) A balancing act: a window into online student engagement experiences. *International Journal of Educational Technology in Higher Education* 17(25): 1–19.

Firmin M (2008) Unstructured interview. In: Given LM (ed) *The SAGE Encyclopedia of Qualitative Research Methods*. Thousand Oaks, CA: SAGE Publications, Inc., 906–908. DOI: 10.4135/9781412963909.n475.

Fredericks J, Blumenfeld PC and Paris AH (2004) School engagement: Potential of the concept, state of the evidence. *Review of Educational Research* 74(1): 59–109. DOI: 10.3102/00346543074001059.

Gayton J and McEwen BC (2007) Effective online instructional and assessment strategies. *American Journal of Distance Education* 21(3): 117–132. DOI: 10.1080/08923640701341653.

Garip G, Seneviratne SR and Iacovou S (2020) Learners' perceptions and experiences of studying psychology online. *Journal of Computer Education* 7: 553–573. DOI: 10.1007/s40692-020-00167-4.

Giossos Y, Koutsouba M, Lionarakis L, et al. (2009) Reconsidering moore's transactional distance theory. *European Journal of Open, Distance and E-Learning*. Retrieved from: http://www.eurodl.org/?article=374

Hennink M and Kaiser BN (2021) Sample sizes for saturation in qualitative research: a systematic review of empirical tests. *Social Science and Medicine* 292: 1–10.

Islam MA, Nur S and Talukder S (2021) E-learning in the time of COVID-19: lived experiences of three university teachers from two countries. *E-Learning and Digital Media* 18(6): 557–580. DOI: 10.1177/20427530211022924.

Kahn P, Everington L, Kelm K, et al (2017) Understanding student engagement in online learning environments: the role of reflexivity. *Educational Technology Research and Development* 65: 203–218.

Kahu ER (2013) Framing student engagement in higher education. *Studies in Higher Education* 38(5): 758–773. DOI: 10.1080/03075079.2011.598505.

Kassandrinou A, Angelaki C and Mavroidis I (2014) Transactional distance among Open University students: How does it affect the learning process? *European Journal of Open, Distance, and e-Learning* 17(1): 26–42.

King SB (2014) Graduate student perceptions of the use of online course tools to support engagement. *International Journal for the Scholarship of Teaching and Learning* 8(1): 5. DOI: 10.20429/ijsotl.2014.080105.

Kuh GD (2001) Assessing what really matters to student learning. *Change* 33: 10–17. DOI: 10.1080/00091380109601795.

Kuh GD (2007) What student engagement data tell us about college readiness. *Association of American Colleges and Universities* 9(1). Retrieved from: http://www.aacu.org/peerreview/pr-wi07/pr-wi07analysis1.cfm

Kuh GD (2009) The national survey of student engagement: conceptual and empirical foundations. *New Directions for Institutional Research* 141: 5–20.

Larmuseau C, Desmet P and Depaepe F (2018) Perceptions of instructional quality: impact on acceptance and use of an online learning environment. *Interactive Learning Environments* 27(7): 953–964. DOI: 10.1080/10494820.2018.1509874.

Lima DPR, Gerosa MA, Conte TU, et al. (2019) What to expect, and how to improve online discussion forums: the instructors' perspective. *Journal of Internet Services and Applications* 10(22): 1–15.

Martin F and Bolliger DU (2018) Engagement matters: student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning* 22(1): 205–222. DOI: 10.24059/olj.v22i1.1092.

Martinez-Arguelles M and Batalla-Busquets J (2016) Perceived service quality and student loyalty in an online university. *International Review of Research in Open and Distributed Learning* 17(4): 264–279.

McChesney K and Aldridge JM (2019) Weaving an interpretivist stance throughout mixed methods research. *International Journal of Research and Method in Education* 42(3): 225–238. DO1:. DOI: 10.1080/1743727X.2019.1590811.

Merriam SB (2002) Introduction to qualitative research. In: Merriam SB (eds) *Qualitative Research in Practice: Examples for Discussion and Analysis*. San Francisco, CA: Jossey Bass.

Moore MG (1973) Toward a theory of independent learning and teaching. *Journal of Higher Education* 44(9): 661–679.

Moore MG (1991) Editorial: Distance education theory. *The American Journal of Distance Education* 5(3): 1–6.

Moore MG (1993) Theory of transactional distance. In: Keegan D (ed) *Theoretical Principles of Distance Education*. New York, NY: Routledge, 22–38.

Moore MG and Kearsley G (1996) *Distance Education: A Systems View*. New York: Wadsworth.

Muir T, Milthorpe N, Stone C, et al. (2019) Chronicling engagement: students' experience of online learning over time. *Distance Education* 40(2): 262–277. DOI: 10.1080/01587919.2019.1600367.

Murphy MPA (2020) COVID-19 and emergency eLearning: consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy* 41(3): 492–505. DOI: 10.1080/13523260.2020.1761749.

Murphy E and Rodríguez-Manzanares M (2008) Revisiting transactional distance theory in a context of web-based high-school distance education. *Journal of Distance Education* 22(2): 1–14.

Park JH and Choi HJ (2009) Factors influencing adult learners' decision to drop out or persist in online learning. *Educational Technology and Society* 12(4): 207–217. Retrieved from: https://www.j-ets.net/ETS/index-2.html

Queiros DR and De Villiers MR (2016) Online learning in a South African higher education institution: determining the right connections for the Student. *The International Review of Research in Open and Distributed Learning* 17(5).

Quong J, Snider SL and Early J (2018) Reducing transactional distance in online and blended courses through the use of a closed social media platform. *Journal of Educational Technology Systems* 47(1): 79–100.

Ragusa AT and Crampton A (2018) Sense of connection, identity and academic success in distance education: sociologically exploring online learning environments. *Rural Society* 27(2): 125–142. DOI: 10.1080/10371656.2018.1472914.

Rajabalee YB, Santally MI and Rennie F (2020) A study of the relationship between students' engagement and their academic performances in an eLearning environment. *E-Learning and Digital Media* 17(1): 1–20. DOI: 10.1177/2042753019882567.

Richardson JC, Koehler AA, Besser ED, et al. (2015) Conceptualizing and investigating instructor presence in online learning environments. *The International Review of Research in Open and Distributed Learning* 16(3). DOI: 10.19173/irrodl.v16i3.2123.

Sandelowski M (1995) Sample size in qualitative research. *Research in Nursing and Health* 18: 179–183.

Sandelowski M (1996) One is the liveliest number: the case orientation of qualitative research. *Research in Nursing and Health* 19(6): 525–529.

Schwandt TA (1998) Constructivist, interpretivist approaches to human inquiry. In: Denzin NK and Lincoln YS (eds) *The Landscape of Qualitative Research: Theories and Issues*. Thousand Oaks, CA: Sage, 221–259.

Shea P and Bidjerano T (2010) Learning presence: towards a theory of self-efficacy, self-regulation, and the development of a communities of inquiry in online and blended learning environments. *Computers & Education* 55: 1721–1731. DOI: 10.1016/j.compedu.2010.07.017.

Simpson O (2003) *Student Retention in Online, Open, and Distance Learning*. London, UK: Kogan Page.

Sirin SR and Rogers-Sirin L (2004) Exploring school engagement of middle-class African American adolescents. *Youth & Society* 35(3): 323–340. DOI: 10.1177/0044118X03255006.

Song L, Singleton ES, Hill JR, et al. (2004) Improving online learning: student perceptions of useful and challenging characteristics. *The Internet and Higher Education* 7(1): 59–70.

Srichanyachon N (2014) EFL learners' perceptions of using LMS. *The Turkish Online Journal of Educational Technology* 13(4). Retrieved from: https://files.eric.ed.gov/fulltext/EJ1043183.pdf (accessed 14 November 2018).

Stefanou CR, Perencevich KC, DiCintio M, et al. (2004) Supporting autonomy in the classroom: ways teachers encourage student decision making and ownership. *Educational Psychologist* 39(2): 97–110. DOI: 10.1207/s15326985ep3902_2.

Stein DS, Wanstreet CE, Calvin J, et al. (2005) Bridging the transactional distance gap in online learning environments. *The American Journal of Distance Education* 19(2): 105–118. DOI: 10.1207/s15389286ajde1902_4.

Stodnick M and Rogers P (2008) Using SERVQUAL to measure the quality of the classroom experience. *Decision Sciences Journal of Innovative Education* 6(1): 115–133. DOI: 10.1111/j.1540-4609.2007.00162.x.

Thomas M (2002) Learning within incoherent structures: the space of online discussion forums. *Journal of Computer Assisted Learning* 18(3): 351–366. DOI: 10.1046/j.0266-4909.2002.03800.x.

Tunks KW (2012) An introduction and guide to enhancing online instruction with web 2.0 tools. *Journal of Educators Online* 9. Retrieved from: http://eric.ed.gov/? id¼EJ985402

Velden GVD (2013) Staff perceptions of student engagement. In: Dunne E and Owen D (eds) *The Student Engagement Handbook: Practice in Higher Education*. Emerald, 77–91.

Williamson B, Eynon R and Potter J (2020) Pandemic politics, pedagogies and practices: digital technologies and distance education during the coronavirus emergency. *Learning, Media and Technology* 45(2): 107–114. DOI: 10.1080/17439884.2020.1761641.

Wongwatkit C, Panjaburee P, Srisawasdi N, et al. (2020) Moderating effects of gender differences on the relationships between perceived learning support, intention to use, and learning performance in a personalized e-learning. *Journal of Computers in Education* 7(2): 229–255. DOI: 10.1007/s40692-020-00154-9.

Zembylas M, Theodorou M and Pavlakis A (2008) The role of emotions in the experiences of online Learning: challenges and opportunities. *Educational Media International* 45(2): 107–117. DOI: 10.1080/09523980802107237.

Zhu Y, Zhang JH, Au W, et al. (2020) University students' online learning attitudes and continuous intention to undertake online courses: a self-regulated learning perspective. *Educational Technology Research and Development* 68: 1485–1519. DOI: 10.1007/s11423-020-09753-w.

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