

ONLINE LEARNING READINESS: PERSPECTIVE OF STUDENTS ENROLLED IN DISTANCE EDUCATION IN GHANA

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ABSTRACT

Significance of online learning is widely recognized as a means to enhance accessibility and quality of teaching-learning process in the world. In Ghana, there is a trend to broaden the use of online learning through the distance education programme. However, issues of student readiness for online learning at the distance education mode has been left unattended to. Therefore, the current paper has its objective to explore readiness of distance education students for online learning. Descriptive research design was employed for the study. A multistage sampling procedure was used to select three regions in Ghana and six study centers from the regions out of which 306 first year students enrolled in distance education programme in the University of Cape Coast participated in the study. A five-point Likert type of questionnaire was used for the data collection. Data was analyzed by using descriptive statistics specifically mean and standard deviation as well as inferential statistics thus independent sample t-test and standard multiple linear regression. Findings from the study suggest that distance education students had a positive attitude towards online learning. Further, it was also revealed that students possessed good self-regulated learning, collaborative and information communication and technology skills relevant for online learning through the distance education mode. Management of Universities running distance education specifically the university of Cape Coast, College of Distance Education (CoDE) should direct their focus to the formulation of appropriate and operational distance education policies to guide the college towards successful implementation of online learning since their target audience (students) have positive attitude toward online learning.

Keywords: Online learning, Distance Education, Self-regulated learning skills, Collaborative skills

INRODUCTION

Distance education globally has witnessed significant transformation because of the Internet. Recently, one can talk of the paradigm shift from traditional face to face to an electronic mode of learning. The convention of on-site interaction has prevailed ever since communities approved of the model that schools and classes use today to facilitate education (Brown, 2013). The common practice in the world has always been a classroom with one or more teachers and students, with both groups having meetings in physical structures and in real time. With the onset of computer technology and the internet, the traditional setup of learning is evolving into a form mostly referred to as "Online learning. Clark and Mayer (2011) define online learning as "provision of instruction via digital device such as a computer or mobile device that is thought of to support learning". Hogan and Kedrayate (2010) opined that online learning is a blended approach that combines online and face-to-face interaction. There are several devices and platforms that can be used as tools for online learning. These include Internet, satellite, intranet, extranet, satellite broadcast, audio/video tape, CD-ROM, interactive TV and many others (SØrebØ, Halvari, Gulli & Kristiansen, 2009). Distance education has always grown on the wings of technology worldwide. Several scholars have traced the evolution of several technological platforms for teaching today to distance education since its inception (Garrison, Taylor & Swannell, 2001; Schultze, 2011). The first generation normally referred to as the era of correspondence courses, was championed by the print devices or technology. The second era was noted of as an era limited by media courses (postal mailing, strengthened with audiotape and television broadcast). The third phase was known to be an era ruled by personal computer and multimedia applications such as print, audio and video-conferencing which offer synchronous communication (Anderson & Dron, 2011; Schultze, 2011). The fourth era was traced to the influence of the internet and it is based on the use of world-wide web (www) to provide both synchronous and asynchronous delivery. With the prevalence of internet usage, online learning has become widely accepted and many universities are using it to support teaching and learning (Kanuka & Anderson, 2007). Deng and Tavares (2013) are of the opinion that the latest developments of internet technologies have caused universities investing considerable resources in online learning systems to support teaching and learning. According to the Giga Information Group (GIG), about 75% of the 129 topmost United States universities make use of online learning

systems (Wang & Wang, 2009). This innovation that started in developed countries is rapidly becoming a global phenomenon. Online learning has recently become more popular in many developing countries (Alkhalaf, Drew, AlGhamdi & Alfarraj, 2012). Tagoe (2012) asserts that though the implementation of online learning in developing countries, especially in Africa, is slow compared to that of countries in the western world, the last decade has seen proactive efforts on the part of university administrators to roll-out online learning strategies in order to map up with their counterpart countries in the developed world. Universities and other institutions of higher learning adopt and implement online learning because of several benefits they can obtain from it. Online learning offers diverse ways of learning resulting in drastic changes in educational practice (Brown, 2013). For instance, the idea of conventional education system does not augur well with the current trend of lifelong learning in which the roles of teachers, students and curriculum are changing (Marold, Larsen & Moreno, 2000). Online learning becomes mostly important in situations where there is no slot for conventional learning (Horn & Staker, 2011). For instance, in small, rural and urban schools which are unable to offer a broad set of courses with highly qualified teachers in certain subject areas. Again, teaching in the traditional classroom is often teacher-centric where the instructor mainly dominates class activities including topic selection, course material delivery, progress assessment and discussions (Baloian, Pino & Hoppe, 2000). But the role of students' communication and interaction in the learning process is a critical success ingredient in contemporary educational paradigms (Brown, 2013).

In Ghana, distance education is now considered as a force capable of contributing to social and economic development in many aspects of the economy (Amoako, 2018). In line with this, universities are exploring ways of adopting Information and Communication Technologies (ICT) and online learning as an alternative method of course delivery, or as a complement to existing approaches (Marfo & Okine, 2011; Jones, 2008). Previous studies conducted in Ghana have shown that initiatives involving ICT integration in teaching and learning in Ghana failed partly because it did not meet the expectation of students (Marfo & Okine, 2011; Dadzie, 2009). The questions that readily come to mind are that; are Ghanaian university students ready to embrace online learning mode? What is their attitude toward online learning? Do they have 'self-regulated skills' that depict their readiness for the online learning? There are no readily available answers to these questions with particular reference to distance education students. This is because most scholars over the years have not paid attention to exploring distance education students readiness for online learning in Ghana but rather on challenges of implementing online learning (Dadzie, 2009; Jones, 2008) accessibility considerations for online learning in Ghana (Boateng, 2015; Coleman 2011), determinants of online learning adoption in universities in Ghana (Ansong, 2015), examining policy guidelines for distance education in dual mode public universities in Ghana (Osei, Dontwi & Mensah, 2013). Unattended are issues of students' readiness for online learning at the distance mode, perceived students' capabilities to collaborate and interact in an online learning environment as well as students' self-regulatory skills necessary for online learning. This study therefore sought to find out University of Cape Coast distance students' readiness, capability to collaborate and interact in an online learning environment and students self-regulated learning skills relevant for online learning. The following research questions were posed to guide the study:

1. What is students' attitude toward online learning in Ghana?
2. What are the students' self-regulation skills that depicts readiness for online learning in Ghana?
3. What is the perception of students' regarding their capability to collaborate and interact in an online learning environment in Ghana?
4. What is the basic skills level of student in ICT for online learning?
5. Which factor(s) predict more of students' readiness toward online learning in Ghana?

LITERATURE REVIEW

The term 'online learning' has been used in different contexts, which includes; distributed learning, hybrid learning and online-distance learning (Maltz et al., 2005). In an online learning environment, different set of tools and technologies are used, for example, internet mediated teaching, web-based education, TV and radio broadcast, virtual classrooms and distributed learning (Rosenblit, 2009). Online learning is seen as flexible and often make use of technologies, this might involve, video conferencing, audio chatting and online discussion (Hrastinski, 2008). The technologies as mentioned give students the opportunity to interact with instructors and other learners in a more flexible way. Online learning refers to the use of information and communication technologies (ICT) in diverse aspects of education to support and improve learning in tertiary institutions. This might take the form of using technology as a supplement to traditional classrooms interaction, online learning or hybrid modes (OECD, 2005). Online learning gives institutions and learners the flexibility when it comes to venue and time of teaching or receiving learning information. Sustaining professional development practices recently calls for involvement of state-of-the-art technologies that aid flexibility of learning (Smedley, 2010). Online learning signals a revolution in teaching and learning which has undeniable impacts on the education system. Voogt and Knezek (2008) opined that

online learning is of critical significance as well as an effective method that should be blended into schools' learning approach. With technology evolving at such a faster rate, it is critical that teachers and learners are equipped with technical skills to manage online learning environment. These technical know-hows are effectively acquired by learning with technology, rather than about technology (Broadley, 2012). Learning with technology does not only depend on technical know-how, but users of technology should also have the interest to use technology as learning tool and teaching platform. Online learning implementation requires expertise, knowledge, physical infrastructure, and psychological readiness. Online learning platforms are mostly well managed and used by people with some level of expertise, knowledge and skills. In addition to teachers' ICT knowledge and skills, Broadley (2012) indicates that teachers' perception and attitude towards online learning play a significant role in online learning implementation. However, for some learners as well as instructors, online learning foreign to the traditional teaching style, and a number of teachers feel that technology deprives them of autonomy (Mansour & Mupinga, 2007). It is therefore necessary to examine students who are mostly the beneficiaries of online learning perception toward technology usage and their readiness for online learning.

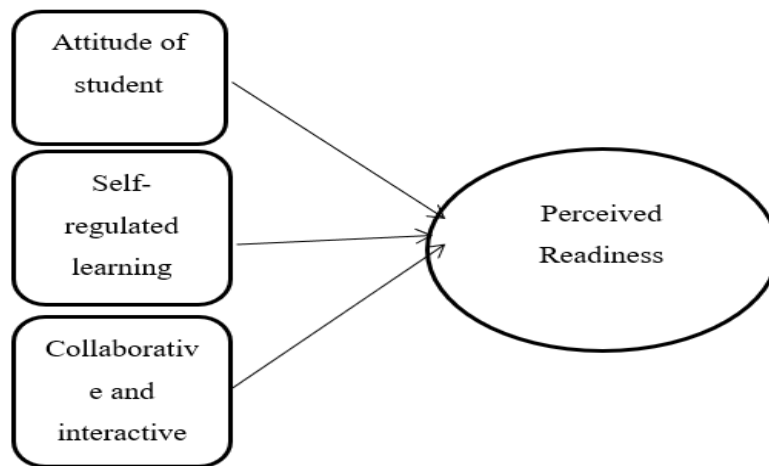


Figure 1 Source: Authors construct

The conceptual framework (Figure 1) above explains how important variables such as student attitude toward online learning, self-regulated learning skills and perceived collaborative and interactive skills predict readiness for online learning (e-learning). Evidence has been shown in literature that students' attitude, in other words if they have a good impression or otherwise toward e-learning tell to a greater extent their acceptability or otherwise of online courses (Ansong, 2015). Again, when students have adequate skills and techniques for self-regulated learning, they tend to develop interest and subsequently apply for online courses (Wandler & Imbriale, 2017; Quince, 2013; Pintrich, 2004). The term self-regulation is the regulation of one's thinking and actions (Zimmerman & Schunk, 2011). For example, students may give extra thought to how they learn and the strategies they will need to succeed in college coursework. This model was propounded by Zimmerman (1990) to explain how effective learning takes place. It is a social-cognitive model that conceptualizes effective learning as a cyclical process of evaluating cognitive and motivational processes during academic tasks. The cycle is commonly represented in three phases: planning, performance, and self-evaluation. The planning phase includes setting goals and assessing motivation prior to undertaken a task. The performance phase has to do with online assessment of learning and adapting to task demands. The self-evaluation phase concerns student self-appraisal about the learnable bit and whether their learning style was effective. Self-regulated learners develop the capacity to make adjustments during the self-regulated learning cycle through the use of strategies (Pintrich, 2004). The strategies involve the use of metacognitive, motivational, and behavioural learning strategies (Schunk & Zimmerman, 2007). In terms of metacognitive processes, self-regulated students plan, set goals, organize, self-monitor, and self-evaluate at several levels during the process of acquiring knowledge (Pressley, Borkowski, & Schneider, 1987). In terms of motivational processes, self-regulated learners report high self-efficacy, self-attributions, and task interest (Zimmerman, 1985). In their behavioural processes, self-regulated learners choose, organize, and create surroundings that maximize learning (Henderson, 1986; Wang & Peverly, 1986; Zimmerman & Martinez-Pons, 1986). The implication of this theory for this study has to do with the fact that online learning can be very successful if university students have the skill to take the initiative in understanding their learning needs, establishing learning goals, identifying human and

material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

Students' ability to collaborate with peers as well as instructors online for learning support also predicts online learning acceptability (Lantolf & Thorne 2006; Vygotsky, 1978). The concept of "collaborative and interactive learning" is largely rooted in Vygotsky's sociocultural theory (SCT) which views learning as inherently a social process activated through the Zone of Proximal Development (ZPD). Vygotsky's sociocultural views highlight how learning is mediated in accordance with the context and experiences with peers. This view illuminates the causal relationship between social interaction and an individual's cognitive development. Learning, from the sociocultural perspective, is essentially a social term rather than individual in nature, where interaction constitutes the learning process (Lantolf & Thorne 2006). Social interaction is seen as a prerequisite for the growth and development of cognition (Donato and McCormick 1994), and the physical and symbolic tools that links human interaction cannot be separated from the social environment in which it is carried out (Wertsch 1993). In other words, mental functions are "intertwined with sociocultural determined factors" (Lantolf and Appel 1994, p. 5). Vygotsky (1978) then based his theory on collaborative learning, suggesting that working with a more capable person is pertinent to personal development. Vygotsky focused on the individual powerfully rooted in a collaborative and interactive context and famously made the following observations: learning is first connected on a social level between a learner and other people in his or her environment, and then is internalized by the learner on an individual level. Secondly, learning on the social level often has to do with mentoring provided by more knowledgeable persons, either by adults or peers, who engage in activity with less experienced persons in a process of guidance or collaboration. Thus, learning, with regard to this notion, is "embedded within social events and occurring as a learner interacts with people, objects and events in the environment" (Vygotsky 1986, p. 287). Collaborative learning in the Vygotskian tradition aims at social interaction either among students or between students and a teacher, and essentially assists students in advancing through the Zone of Proximal Development (ZPD), which he defined as: "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky 1978, p. 86). One's ability to perform cognitive tasks independently is premised on the prior social process, as this is regarded as the basic tenet of socioculturalism in which learning is situated within a given context and is influenced by the social and cultural activities one has experienced (Oxford 1997). The implication of this theory for this study is only thought to be that, in order for an effective online distance education and for that matter online learning to be successful, there should exist robust students' collaborative and interactive learning behaviours to complement online instruction. The basic idea is that the more students are able to interact and collaborate in an online learning environment, the better for them to sharpen out their weaknesses as well as creating opportunities for consolidation of knowledge and skills

In summary, theoretical underpinning behind the study appear to suggest that for an online learning programmes to be implemented in the university, student's readiness to apply for such programmes or courses is contingents on the variables in the conceptual model as indicated in Fig.1 above. This study sought to test empirically within the Ghanaian context for decisions regarding policy for online learning through the distance education mode. The review that follows focuses on earlier studies conducted on student's readiness for online learning. Specifically, the review focuses on students' attitude towards online learning, students self-regulated learning skills that depicts their readiness for online learning, student's capability to collaborate and interact in an online learning environment and student's previous knowledge and skill in ICT relevant for online learning.

Literature related to students' attitude toward online learning

Alanazy (2018) investigated the readiness of faculty members for adopting online learning at Aljouf University, a Saudi newly established university. A descriptive research design was used and 156 respondents were asked to respond to a web based questionnaire that begins with eight demographic items and has other four parts; attitude toward online learning, computer self-efficacy, attitude toward technology, and computer anxiety. The results demonstrated that faculty members and students showed positive attitudes toward online learning ($M=3.03$, $SD=0.45$). They also showed a slightly high computer self-efficiency ($M=2.92$, $SD=0.40$), positive attitudes toward technology ($M=3.10$, $SD=0.33$), and a low level of computer anxiety ($M=1.05$, $SD=0.38$). Finally, the results revealed that among the demographic variables, only the nationality of the participants and their experience with online learning had a significant effect on their attitude toward online learning. This study paid attention to lecturers of the department, however, the perception of students online learning courses are as important as the courses. In this line, this current study would examine students' attitude toward the idea of online learning. Fageeh (2011) examined the attitude and perception of undergraduate students (at different levels of the English department) regarding their readiness to accept online learning at King Khalid University. Mixed method design was adopted to ascertain the

students and teachers' perception, attitude and readiness to accept it, and factors facilitating or inhibiting online learning. Findings of the study have demonstrated that informants of this study have identified the facilitators and inhibitors of online learning previously recognized by prior research. This shows that students have positive attitude toward the online learning. The study also showed that students are ready to accept technology implementation and so shift to an online learning model of education. This present study will sample from across department and disciplines for wider consultative view point of students on online learning.

Literature related to students' self-regulated learning skills (SRL) and online learning

Wandler and Imbriale (2017) explored strategies for online instructors to promote students' use of self-regulated learning strategies (SRLS) in online courses, which has been associated with positive academic achievement. In order to achieve the aim of the study, the study reviewed extensively, literature on self-regulated learning strategies of students together with Zimmerman's model. Findings indicated that online instructors can help their students with the following strategies; teaching self-regulation strategies, instructing students to get study logs, prompting students to self-regulate, sending text message reminders, scaffolding and prompting students to seek help when the need arises. The researchers recommended that faculty members will need to determine the amount of time they have available to commit to these improvements in the course. The study failed to explore students' level of self-regulated learning but focused on strategies that instructors would utilize to help student self-regulate. This study therefore sought to examine the self-regulated learning skills of students relevant for online learning. Yot-Domínguez and Marcelo (2017) examined whether university students really use digital technologies to plan, organize and facilitate their own learning. Three research questions were crafted for this study. Which technologies do university students use to self-regulate their learning? What self-regulated strategies do they develop using technologies? What profile could be identified among students based on their use of self-regulation strategies with technology? The study made use of descriptive survey design and sampled 711 students conveniently from various universities in the region of Andalusia (Spain). The research data was collected using a questionnaire and data analyzed using mean and standard deviation. The results showed that university students, even when they are frequent users of digital technology, do not use these technologies to regulate their own learning process. Of all the technologies, it was discovered that internet information search and instant communication Apps were those used by students often. Moreover, it was discovered that, the most generalized self-regulation learning strategies were those related to social support. It was further discovered that students differ in their use and frequency of use of self-regulation learning strategies.

Literature related to students' capabilities to collaborate and interact in an online learning environment

Koo (2008) explored collaborative behaviours of students toward online learning. Using descriptive research design, the researcher chose 86 mathematics teachers from 12 secondary schools using proportionate stratified sampling technique. Descriptive statistics, confirmatory factor analysis and structural equation modelling were used to analyse the data. A moderately fit model was generated and able to inform that time constraint and insufficient access to technology such as computer and internet were confirmed to be the two impediments to online collaborative learning as perceived by the teachers.

Literature related to students' skills in ICT as an enhancing factor for online learning

Ansong (2015) explored the technological, institutional and environmental determinants of online learning adoption in the University of Ghana using a multi-stakeholder approach. Another construct (Nature of the course) was added to the traditional constructs of the Technology-Organisation-Environment framework to underpin the study. Eight factors were identified after the review of online learning literature: information technology infrastructure, perceived ease of use, institutional compatibility, assumed benefits, educational partners, competitive pressure, content of the online learning course and online learning curriculum. Using a quantitative survey method, a total of 417 online learning stakeholders in the University of Ghana responded to the questionnaire. The data was analyzed by means of factors analysis, correlation and multiple regression. The findings established that IT infrastructure, institutional compatibility, assumed benefits, competitive pressure, educational partners, content of the online course and online learning curriculum influence student's adoption of online learning. Also, perceived ease use, educational partners and online learning curriculum influenced instructors to accept online learning. On the other hand, IT infrastructure, institutional compatibility, expected benefits are adoption determinant factors for the online learning administrators. The analysis further revealed that online learning was yet to receive a university-wide acceptance and again, a more complex institutional compatibility leads to online learning being less adopted in the institution. Ngamau (2013) investigated individual, organizational and technological factors that contribute to limited success in the rolling out of online learning programmes at Jomo Kenyatta University. A descriptive research design was used whereby 146 faculty members were selected using proportionate stratified sampling strategy from the 7 schools at the University main campus. The main data collection instrument was a questionnaire and the data was analyzed using descriptive

statistics and inferential statistics. Results on individual factors included, computer literacy, frequency of LMS use and adoption. On the organizational factors, the study discovered management support, institutional leadership, school and institution wide online learning strategy, ease of use of the system and ICT infrastructure. Finally, among technological factors, ICT infrastructure, perceived usefulness, output quality and job relevance were discovered. The study recommended that effort to improve online learning acceptance should place emphasis on improving computer literacy.

METHODOLOGY

A descriptive survey research design was employed for this study. The descriptive survey research design is one directed towards determining the nature of a phenomenon as it exists at the time of the study, (Maduabum, 2004). The target population for the study was all College of Distance Education undergraduate first year students (2017/2018-year group) of the University of Cape Coast, Ghana. The population was estimated to be 35000. The sampling of respondents was done using a multistage sampling procedure. Purposive sampling technique was employed to select three administrative regions (thus Greater Accra region, Central region and Western region) from the total of 10 regions. The second stage involved the selection of six “study centers” from the three regions using random sampling procedure. The third stage involved the selection of respondents. At this point, the researcher used proportionate stratified sampling technique to select respondents from the six “study centers”. In this case the researcher used a common ratio of 153: 707 or (.216) to get a sample from each of the selected centers. The samples from all the six centers were put together to form a single case to make a total sample size of 306. The instrument that was used for data collection was a self-developed questionnaire formed based on the theories of Self-regulated learning (SRL) and Collaborative learning (CL). The questionnaire was made up of five sections named A, B, C, D and E. The first subsection (thus section A) of the questionnaire had five items that covered background information of the respondents. Background information included in the items were age-range, gender, marital status, programme of study and whether or not the respondent was a student worker. Section B of the questionnaire was about respondents’ attitude toward online learning. This subsection was made up of ten (10) items. The Cronbach Alpha index of this subsection is .84. Section C of the questionnaire was about respondents’ self-regulated learning skills. This subsection was made up of ten (10) items with each of them being positively worded. The Cronbach Alpha index of this subscale is .79. Section D of the instrument explored respondents’ collaborative and interactive learning behaviour of students. It was made up of nine (9) close ended items and an open-ended item with all the items being positively worded. The Cronbach Alpha for this subscale is .76. Section E of the questionnaire also elicited information about respondents’ skills acquired in ICT, relevant for online learning. This subscale was also made up of five (5) items and an open-ended item. The Cronbach Alpha index of this part of the questionnaire is .62. All the items on this subscale are positively worded. In all, 41 items are on the questionnaire, with all the items being close ended with spaces for open ended responses. All the subsections were on a five-point Likert type of scale ranging from “Strongly Agree (SA)” to “Strongly Disagree (SD)”. The Cronbach Alpha index for the entire questionnaire was .81. To explain the reliability of a constructed questionnaire better, it is important to report the subscales Cronbach Alpha coefficient together with the entire scale Cronbach Alpha Reliability Coefficient (Quansah, 2017). A pilot test was conducted to refine and fine-tune the instrument (Amedahe, 2002). The reliability coefficient of the instrument was .81. The questionnaires were administered to respondents by the researcher and a research assistant after permission had been sought from the relevant authorities of the various study centers. The data to answer the research question was analyzed using descriptive statistics specifically, mean and standard deviation as well as inferential statistics, thus standard linear multiple regression. All ethical protocols surrounding the conduct of a scientific study which includes confidentiality and anonymity were adhered to during and after the conduct of the study.

Data collection procedure

The questionnaire was administered to the respondents by the researcher and five research assistants. The researcher designated two days to train the five research assistants in line with the purpose of the study and how respondents are to be handled. Before the data collection exercise, the researcher sought permission from the Regional Resident Tutors (RRT’s) and Center Coordinators of the three selected regions and centers for their permission and cooperation. This was done by making copies of introductory letter from the academic department of the researcher that specifies the intent of the researcher for selecting those centers and regions. In each of the centers, the researchers explained the purpose of the study to the respondents (first year Distance students) and assured them of confidentiality and anonymity for their participation in the study. Questionnaires were then administered to the respondents by the researcher and the research assistant at the various centers selected for the study. There was time for questions, during which respondents had the opportunity of asking questions that were not clear to them before responding to the questionnaire. This aspect is crucial because it helped to erase respondents’ biases and prejudices (Trochim, 2000). Moreover, it also helped to ensure good contact with the respondents to further explain the purpose

of the study so that the researchers will win the commitment of the respondents toward responding to items on the questionnaire and submitting them in good time. In all, 306 students were given the questionnaire to respond to. However, after the data collection, 259 respondents submitted completely filled questionnaires. This represent 85% response rate. The data collected in this study was checked, edited, coded and statistically analyzed with both descriptive and inferential statistics based on the research questions and the literature reviewed for the study.

RESULTS

The results of the main data were presented according to the research questions asked. For the purposes of analysis and discussions, the average mean score for all the responses is 3.0. Hence, mean score of 3.0 and above suggest respondents' agreement, whereas mean score below 3.0 suggest respondents' disagreement.

What is students' attitude toward online learning in Ghana?

This research question sought to find out the attitude that distance education students in University of Cape Coast have towards online learning. Data was collected using a questionnaire and summary of the analysis is presented in the table below. From the table, responses indicate that respondents agreed (M= 3.5, SD= 1.2) to the statement "I would be able to understand course related information when it is presented in video formats". The standard deviation score also suggests that respondents' responses on that item were heterogeneous. This was followed by respondents believe (M= 3.3, SD= 1.3) that, it is time for the College to implement an online learning platform. Moreover, when it comes to the statement "I think online-learning mode provides the flexibility to study at the time convenient to the learner," respondents agreed (M= 3.3, SD= 1.4). This statement shows that distance education students believe that online learning would provide with easy and comfortable time to learn on their own. To climax it all, respondents agreed (M= 3.2, SD= 1.5) that I think there is that possibility for live lectures over the internet, as is done in the classroom. In this case, respondents have good perception about online mode of instruction.

Overall, the mean of means (M= 3.1, SD= 1.3) score shows that respondents have a positive attitude toward online learning at the distance mode of education in Ghana. In other words, distance education students of the University of Cape Coast, Ghana, would rather choose to have their mode of tuition online rather than onsite. This is because they believe that they would be able to understand course related information when it is presented in video formats. Again, they have the perception that online-learning mode is flexible, and students are able to learn at the time that is convenient to them.

Table 1- *Attitude towards online learning among distance education students in the University of Cape Coast.*

Statements	M	SD
I would be able to understand course related information when it is presented in video formats.	3.5	1.2
I would be able to make note for myself while watching the video of my instructor on the computer just as is done in a face to face setting	3.3	1.3
I think online-learning mode provides the flexibility to study at the time convenient to the learner.	3.3	1.4
In my opinion, it is time for the College to implement an online learning platform	3.3	1.4
Staying at home and having live lectures over the internet on weekends would be very challenging.	3.2	1.4
I think there is that possibility for live lectures over the internet, as is done in the classroom.	3.2	1.5
I believe learning is the same for both classroom face to face lecture and online lecture.	2.9	1.4
I feel that learning on the internet outside of class will be more motivating than face to face course.	2.7	1.3
I don't foresee any usefulness of online-learning in our country.	2.6	1.4
Mean of Means	3.1	1.3

Source: Field survey, (2018).

What is the self-regulated learning skills of distance education students of University of Cape Coast?

The research question sought to investigate the self-regulated learning skills of distance education students of University of Cape Coast. Data was collected using a questionnaire and summary of the analysis is presented in Table 2 below. The results show that respondents agreed (M= 4.2, SD= 1.0) that in their studies they set goals and have a high sense of initiative toward achieving their goals. This statement indicates that distance students in the University of Cape Coast set objectives and have a high sense of conviction to accomplish them. This was followed by respondents’ agreement (M= 4.1, SD= 1.1) to the statement “when preparing for a test or exams I put together the information from class and from other sources.” Moreover, when offered with the statement “I do isolate myself from anything that distracts me when studying on my own” respondents agreed (M= 3.8, SD= 1.2). The respondents also agree (M= 3.7, SD= 1.1) with the idea that when it comes to academic work, they evaluate their goals periodically, they can also organize their studies and change their plans when the need arises. In this case, when it comes to academic work, they are self-directed. Finally, when presented with the statement “I am able to adhere to study time effectively and easily complete assignment on time”, respondents agreed (M= 3.6, SD= 1.1).

On a whole, the mean of means (M= 3.6, SD= 1.2) score suggests that distance students in the University of Cape Coast possess good self-regulated learning skills. Findings have shown that respondents use self-regulated learning skills such as; setting goals and have high sense of initiative toward achieving the goals, putting together information from different sources when preparing for a test or exam, isolating oneself from anything that distracts studying attention. Respondents also indicated that when it comes to academic work, they evaluate their goals periodically. Finally, respondents pointed out that they are able to adhere to study time effectively and easily complete assignment on time. The good self-regulated learning skills is more likely to aid effective learning among students should online learning mode be instituted.

Table 2- *Self-Regulated Learning Skills of University of Cape Coast distance education students.*

Statements	M	SD
In my studies I set goals and have a high sense of initiative toward achieving my goals.	4.2	1.0
When preparing for a test or exams I put together the information from class and from other sources.	4.1	1.1
I do isolate myself from anything that distracts me when studying on my own.	3.8	1.2
When it comes to academic work, I evaluate my goals periodically.	3.7	1.1
I can organize my studies and change my plans when the need arises.	3.7	1.1
When it comes to academic work, I am a self-directed person	3.7	1.1
I am able to adhere to study time effectively and easily complete assignment on time.	3.6	1.1
I would be able to stay focus on my academic work even when there is distraction in my home. (e.g. television, children and such)	3.0	1.4
I would be able to stay focus on my academic work even when there is distraction in my home. (e.g. television, children and such)	2.9	1.4
I would be able to remain motivated even though the instructor is always not online.	2.8	1.3
Mean of Means	3.6	1.2

Source: Field survey, (2018).

What is the collaborative and interactive skills of distance education students of University of Cape Coast?

The research question sought to find out the collaborative and interactive skills of distance education students of University of Cape Coast relevant for online education. Data were collected using a questionnaire and summary of the analysis is presented in Table 3. From the table, responses indicate that respondents agreed (M= 4.0, SD= 1.0) to the statement “I like to study in groups”. The statement indicates that distance students in the College of Distance Education in the University of Cape Coast mostly prefer to study in groups. This was followed by respondents’

agreement (M= 3.8, SD= 1.2) that they would be able to express themselves clearly when writing to others online if the need arises. Moreover, when it comes to the statement “I am willing to share my ideas and thoughts in an online group studies” respondents agreed (M= 3.7, SD= 1.2). This statement shows that distance education students in the University of Cape Coast can discuss or share their ideas and thought when it comes to online group studies. Furthermore, respondents agreed (M= 3.6, SD= 1.2) that they can utilize other student’s knowledge that they receive online for their own learning. In addition, respondents agreed (M= 3.6, SD= 1.3) that they would be able to ask questions and make comments when studying with others online. Again, respondents agreed (M= 3.5, SD= 1.2) that they know how to give constructive feedback when interacting with others online. Respondents agreed (M= 3.4, SD= 1.3) that they can work in a group in an online study, better still they agreed (M=3.3, SD= 1.4) that do not find it difficult to express their opinion to others through video conferencing example skype. Finally, respondents agreed (M=3.1, SD= 1.3) that they would be able to follow along with an online conversation while typing.

Conclusively, the mean of means (M= 3.6, SD= 1.2) score revealed that respondents who are distance students of the University of Cape Coast agreed that they possess adequate collaborative and interactive skills. This is shown in the respondents’ agreements to all the items presented in Table 3.

Table 3- Collaborative and interactive skills of distance students’ in the University of Cape Coast.

Statements	M	SD
I like to study in groups	4.0	1.0
I would be able to express myself clearly through my writing to others if the need arises.	3.8	1.2
I’m willing to share my ideas and thoughts in an online group studies.	3.7	1.2
I can utilize other student’s knowledge that I receive online for my own learning.	3.6	1.2
I would be able to ask questions and make comments when studying with others online	3.6	1.3
I know how to give constructive feedback when interacting with others online.	3.5	1.2
I can work in a group in online studies.	3.4	1.3
I do not find it difficult to express my opinion to others through video conferencing e.g. skype	3.3	1.4
I would be able to follow along with an online conversation while typing.	3.1	1.3
Mean of Means	3.6	1.2

Source: Field survey, (2018)

What are the ICT skills acquired by students for online learning?

This research question sought to ascertain the skills acquired in ICT for online leaning by distance education students in University of Cape Coast. Data were collected using a questionnaire and summary of the analysis is presented in Table 4. Results from the table shows that respondents agreed (M= 3.9, SD= 1.3) that they have the skill to communicate effectively with others using online technologies such as email, chat, facebook, whatsapp etc. The respondents also followed up with the idea that they have the basic skills for finding their way around the internet (eg using search engine; google etc) as well as the basic skills to operate a computer (e.g., saving files, creating folders). This was indicated by the mean score of (M=3.7, SD= 1.3). Again, when presented with the statement, “I think that my background knowledge and experience with ICT will be beneficial for online learning model.’ Respondents agreed (M= 3.6, SD= 1.2). This statement suggests that indeed distance students in the University of Cape Coast who served as respondents have a firm belief that their basic ideas and skills in ICT will adequately assist them in learning if they are to enroll on online mode of tuition.

All in all, gauging from the mean of means of Table 5, which is (M= 3.7, SD= 1.3), shows that respondents have acquired the basic skills in ICT for online learning. In other words, respondents have information communication and technology skills relevant to be successful learners of online distance education programme.

Table 4- *Skills acquired in ICT for online learning by distance education students in the University of Cape Coast.*

Statements	M	SD
I have the skill to communicate effectively with others using online technologies (email, chat; facebook, whatsapp etc.)	3.9	1.3
I have the basic skills for finding my way around the internet (e.g., using search engine; google etc.).	3.7	1.3
I have the basic skills to operate a computer (e.g., saving files, creating folders).	3.7	1.3
I think that my background knowledge and experience with ICT will be beneficial for online learning model.	3.6	1.2
I can send an email with a file attached to others.	3.5	1.3
Mean of Means	3.7	1.3

Source: Field survey, (2018)

Which factor(s) predict more of students' readiness toward online learning in Ghana?

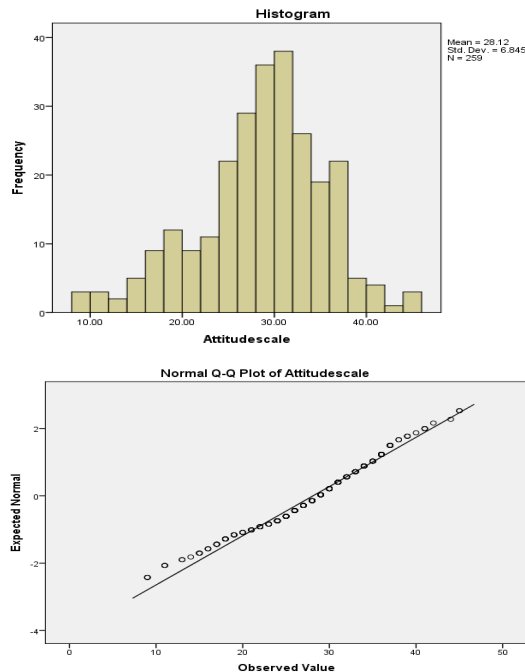
This research question sought to investigate factor(s) that predict more of students' readiness toward online learning. The data were collected using a questionnaire and the analysis was done using standard linear regression.

Table 5- *Predictors of students online learning readiness*

Model	Unstandardize	Std	Standardized	t	Sig.
	d Coefficient		Error		
	B		Beta		
1 (Constant)	5.813	1.003		5.794	.000
attitude	.214	.111	.127	1.932	.054
Self-reg.L	.349	.110	.196	3.174	.002
ICTskills.	.350	.070	.331	5.022	.000
Collab.skills	.124	.073	.102	1.699	.090

Dependent variable: online leaning readiness.

The standard linear multiple regression test was conducted after three major assumptions have being tested. First, the data was tested for normality assumption. In this test, the residual normal probability plot of the model output was inspected. The points in the normal probability plot lied straight diagonal from bottom left to top right. This actually suggests no major violation of the normality assumption.



The second assumption test was multicollinearity. To check for multicollinearity assumption, “variance inflation factor (VIF)” was inspected, fortunately, the VIF value was 2.245 which is less than the cut-off value of 10, suggesting no violation of the multicollinearity assumption. Finally, visual examination of the plots of the standardized residuals by the regression standardized predicted value suggest that “homoscedasticity” assumption has also not been violated. The purpose of this test was to check for the overall contribution of the model (dimensions of the questionnaire, thus students’ attitude, self-regulated behavior, collaborative skills and ICT skills) to explaining the dependent variable (students’ readiness for online learning). In this line, ($R^2 = .378$). The R square value explains 37.8% of the variance in respondents’ readiness for online learning. The value of 37.8% suggests that indeed the model predict higher respondents’ readiness for online learning. To further investigate the model, further analysis was done to check for the individual contributions of all the dimensions of the students’ online readiness questionnaire (thus students’ attitude, self-regulated behavior, collaborative skills and ICT skills). Results from Table 5 indicate that ICT skills dimension of the scale makes the strongest ($\beta = .331$, $t = 5.022$, $p = .0005$) unique contribution to explaining students’ readiness for online learning, when variance explained by all other variables in the model is controlled for. This is followed by students self-regulated dimension of the scale ($\beta = .196$, $t = 3.174$, $p = .002$) which contribute significantly to explaining students’ readiness for online learning. However, in the model, attitude ($\beta = .127$, $t = 1.932$, $p = .054$) and Collaborative skills ($\beta = .102$, $t = 1.699$, $p = .090$) seem not to be significant in terms of variance accounted for in the dependent variable (readiness for online learning). In summary, field data, suggest that students’ skills acquired from pre-tertiary institutions and their ability to self-regulate their own learning are important ingredients that could sustain an online learning model. In the case of “student attitude” and “collaborative learning” dimensions, they are important for online learning model however, they do not significantly contribute to the sustainability of such a model.

DISCUSSIONS

Research question one sought to investigate distance education students of University of Cape Coast (UCC) attitude toward online learning. From the data analysis, results revealed that respondents have positive attitude toward online learning at the distance mode of education in Ghana. This was due to the fact that, they felt online mode of teaching and learning is quite flexible as compared to the traditional face to face onsite mode of teaching and learning. The findings of this study corroborate with Fageeh (2011) who examined the attitude and perception of undergraduate students regarding their readiness to accept online learning at King Khalid University. He discovered that students have positive attitude toward the online learning. The study also showed that students are ready to accept technology implementation and so shift to an e-learning model of education. In a like manner, Alanazy (2018) also discovered in a survey that a chunk majority of respondent have positive attitude toward online learning. This presupposes that many students believe that currently, the way to go in distance education is “online mode” and not the traditional onsite type.

This second research question sought to explore student self-regulated learning skills that shows that they are indeed ready for online learning. Respondent indicated through their responses that they have good self-regulated learning skills. For purposes of emphasis, findings showed that respondents use self-regulated learning skills such as; setting goals and have high sense of initiative toward achieving the goals, putting together information from different sources when preparing for a test or exam, isolating oneself from anything that distracts studying attention. Moreover, respondents indicated that they are able to adhere to study time effectively and easily complete assignment on time. This self-regulated learning behavior is more likely to serve as a scaffold to aid better performance in an online study. The findings of this study is in line with Quince (2013) who examined the effect of self-regulated learning strategy interventions on students' self-regulated learning conduct and academic success in community-college online courses. The study discovered that self-regulated learning strategy intervention was successful in increasing the metacognitive awareness. In this case, increased metacognitive awareness positively contributed to students' efficacy for academic success in online courses.

To answer whether students have the capabilities to collaborate and interact in an online learning environment in Ghana was the objective of this question. Findings revealed that respondents who are distance students of the University of Cape Coast possess adequate collaborative and interactive skills. In this section of the research instrument, respondents find no difficulty in forming groups. They are also willing to share ideas with others online and further indicated that they have the ability to ask questions in an online interaction with others as well as to give constructive feedback. In the manner as indicated by respondents, there are enough evidence to suspect that students are more likely to do better in an online mode of education. Again, it is more likely that the only time that learners' online collaboration and interaction can jeopardize their learning is when time to meet is scarce or when any of the members of a group or all do not easy access to internet or even computer etc. This idea is actually in line with the study of Koo (2008) who explored collaborative behaviours of students toward online learning. He found out that time constraint and insufficient access to technology such as computer and internet were confirmed to be the two impediments to online collaborative learning. This finding has implication for policy direction for institutions that are ripped for online learning mode.

The fourth research question was on student basic skill level in ICT relevant for online learning. This research question sought to explore ICT competency among respondents who were UCC distance education students. Findings show that respondents have information communication and technology skills relevant to be successful learners of online distance education programme. For purposes of emphasis, respondents indicated that they are competent users of email, chat, facebook, WhatsApp among a host of others. Further, they also showed in their responses competency of operating a computer especially, in areas such as creating files, saving file documents, sending document either in word or portable document format (PDF). The finding is in agreement with Tagoe and Abakah (2014) investigated University of Ghana distance education students' perception and readiness toward mobile learning. Findings from the study showed that most of the students had mobile phones and used them for conversation and texting. Tagoe and Abakah finding further showed that young students were more likely to have the competency in operating smart phones and other gadget than their older colleagues. Fortunately, this current study result showed that most of the distance education students are young men and women below the age of 40 years. The implication is that, there is more likelihood that they would be able to operate technological gadget and hence make online distance education encounter fruitful.

Research question five sought to investigate factor(s) that predict more of students' readiness toward online learning. Findings from the study showed that students' skills in ICT acquired from pre-tertiary institutions and their ability to self-regulate their own learning are important factors that could sustain an online learning model. The finding is in support of Ansong (2015) explored the technological, institutional and environmental determinants of online learning adoption in the University of Ghana using a multi-stakeholder approach. On the technological dimension, the study found information technology infrastructure and perceived ease of use of ICT as important factors in the literature. Moreover, Ngamau (2013) who investigated individual, organisational and technological factors that contribute to limited success in the rolling out of online learning programmes at Jomo Kenyatta University found ease of use of the ICT system and ICT infrastructure. In this case earlier studies have all pointed to the ease of use of ICT, that is to say that students who are the focal point of instruction must have competence or skills of ICT usage to sustain online learning model. With respect to students self-regulated learning behavior which is the second factor identified in this present study, previous studies (Quince, 2013; Venter, 2011) have already on it relevance.

CONCLUSION

Based on the findings of the study, it can be concluded that respondents have the believe that conditions are ripped for universities in Ghana, especially, University of Cape Coast to focus on online distance education model since

students' perception and attitude toward online learning are positive. Moreover, it is worth concluding that on-site distance education students have the skill when it comes to setting goals and have high sense of initiative toward achieving the goals, putting together information from different online sources when preparing for a test or exam, isolating themselves from anything that distracts studying attention as well as able to adhere to study time effectively and easily complete assignment on time. In this case they are good self-regulated learners. This self-regulated learning behaviour of students have implication for rolling up online courses that match-up with the job market needs of today. Furthermore, it can be concluded that onsite students have the competency in interacting with others online in the form of sharing knowledge, creating groups, asking questions about academic course content materials, providing constructive feedback to friends among a host of others. The implication is that onsite distance education students of UCC could collaborate and interact effectively when switched to online learning mode.

The study is descriptive in nature. It is essentially, an initial step to investigate students' readiness for an online learning at the distance education mode in Ghana. With regards to its limitation, a study, of this nature should have included all the students at the study centres; however, for economy of time, first year students of four study centers were sampled to be used for the study. This might affect the generalizability of the study to some extent. Even though the study made use of an adapted questionnaire of high reliability for the data collection, however, one cannot be very certain as to whether responses of the respondents under study are true or false. One cannot judge the honesty and truthfulness of such responses made by the respondents and this might affect the reliability of the study. Future research should explore; University of Cape Coast distance education tutors' readiness for online distance Education.; Individual, organizational and technological factors that contribute to limited success in the rolling out of online learning programmes; Strategies for online instructors to promote students use of self-regulated learning strategies (SRLS) in online courses. Researchers also recommend that management of the University of Cape Coast, College of Distance Education (CoDE) should direct their focus to the formulation of appropriate and operational online learning policies to guide the college towards successful implementation of this mode of learning since the target audience (students) have positive attitude toward online learning platform.

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Appendix

Confirmatory Factor Analysis for the Questionnaire

Construct	Items	Factor Load	Composite Reliability	Average Variance Extracted
Attitude toward online learning	Q1	.825	.720	.505
	Q2	.781		
	Q3	.742		
	Q4	.728		
	Q5	.703		
	Q6	.698		
	Q7	.656		
	Q8	.635		
	Q9	.599		
Self-regulated learning skills			.854	.465
	Q10	.806		
	Q11	.739		
	Q12	.734		
	Q13	.728		
	Q14	.718		
	Q15	.704		
	Q16	.645		
	Q17	.613		
	Q18	.589		
	Q19	.490		
Collaborative and Interactive Skills			.900	.249
	Q20	.635		
	Q21	.592		
	Q22	.546		
	Q23	.543		
	Q24	.525		
	Q25	.467		
	Q26	.461		
	Q27	.316		
	Q28	.307		
Skills acquired in ICT			.904	.129
	Q29	.429		
	Q30	.402		
	Q31	.324		
	Q32	.321		
	Q33	.301		

*Q1-Q33 signifies the items on the questionnaire

Table 6- *KMO and Bartlett's Tests*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.920
Bartlett's Test of Sphericity	
Approx. Chi-Square	4434.359
Df	528
Sig.	.000

The 33 items of the student readiness for online questionnaire were subjected to principal component analysis (PCA) using SPSS version 22. Prior to performing PCA the suitability of data for factor analysis was assessed. Inspection of correlation matrix revealed the presence of many coefficient of .3 and above. The Kaiser-Meyer-Okin value was .92, exceeding the recommended value of .6 (Kaiser, 1970). Moreover, the Bartlett's test of sphericity also reached statistical significance (see Table 6), supporting the factorability of the correlation matrix.

To aid in the interpretation of these four components, Oblimin rotation was performed. The rotated solution revealed the presence of simple structure with all the component showing a number of strong loadings and variables loading substantially on the respective component. The result of this analysis supports the use of the questionnaire in measuring the various construct as shown in the analysis of the main data of the various research questions.