

ASSESSING BUSINESS STUDENTS' EXPERIENCES WITH E-LEARNING IN A GHANIAN UNIVERSITY

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ABSTRACT

Objective: Though e-learning has gained root in most universities all over the world that has resulted in the change of doing the business of teaching and learning, there are others where this is not so. This paper sought to investigate the perception of students using a Moodle platform from a university where the use of e-learning platform to supplement classroom's instructional delivery is not mandatory thus almost all courses do not use such platforms. **Design:** A purposive sampling questionnaire was used in this study to solicit the views of third year business students after using the platform for two courses taught by the author in both semesters of the 2016/17 academic year. A link from Google form that contains the questionnaire was inserted into the Moodle platform for all 414 students who enrolled for the two courses to fill. In all 349 students completely filled the questionnaire indicating a response rate of 84.3%, which was deemed adequate for the study. **Results:** It was observed that overwhelming majority of the respondents own computing devices spending more than half of each day using those devices. They also use computers for academic purposes (studying and researching) while using mobile devices for non-academic purposes (personal life and social networking). Finally, they have positive impression with studying with the Moodle LMS while they identified some challenges in using the said platform. **Conclusions:** Respondents are ready for e-learning take off since they own their devices, spend most of the time with them and are digital savvy. The identified issues with the existing Moodle platform should be addressed before it is made mandatory.

Keywords: Students' perceptions, Moodle learning environment, experiences of e-learning, questionnaire survey.

INTRODUCTION

It is evident that the ways organizations conduct their businesses has changed and this changes will continue to occur. This is by the courtesy of Information Technology—mainly used in United States or its equivalent term Information and Communication Technology (ICT)—mainly by the rest of the world. The radical nature of this change has led to the call for people not only becoming technological literate but rather technological competent if we are to take active part and play meaningful role in the world that is being controlled by technology. What once used to be the domain of only computer scientists, programmers, engineers, and scientists, the ICT field is now viewed as an indispensable resource for organizational and personal productivity—that is, for achieving an organization's business goals, and for facilitating the attainment of an individual's life and career goals. Students need to be trained in new ICT skills if they are to function in the changed global environment (Anderson, 2010, p.14) and equip them for life's challenges for today and tomorrow. Thus mastery of technology tools is a requirement rather than an option for enhancing current personal and academic performance as well as future business performance. Students are to use technology to search for the right information for their coursework and also broaden their knowledge in their chosen disciplines. It can be observed that the use of technology for teaching and learning is paramount to the success of students both at school and future working life. Thus universities are spending heavily on electronic learning (e-learning) infrastructure to provide the necessary platform where our students' digital skills would be developed. Building the e-learning infrastructure does not guarantee its usage, conscious effort is needed through policies and motivation is needed in making the decision of using e-learning in technologically starved institutions in developing nations like the University of Cape Coast to become a reality.

Like many other technological concepts, electronic learning (aka e-learning) does not have universally accepted definition. In its simplest term, e-learning is first and foremost learning driven and enhanced with digital technology. With the use of the Internet technologies in learning, learning can be done anytime, anywhere and anyhow. Where ICT provides the vehicle, e-learning can be described as the journey, with increased knowledge, understanding and skills as the destination (Anderson, 2010, p.38). Ideally, the focus of e-learning is the learner who participates in learning activities through the use of ICT to fulfil learning objectives. The learner uses ICT to interact with content on the web. In a general term e-learning is used to refer to a form of instruction and learning system in which the teacher and students or the participants involved in the production and consumption of information, do not necessarily meet physically, but rather are separated by time, distance (space), or both. This separation is bridged with the help of ICT, including the Internet and emergent educational technologies" (Alkhalaf, Drew & Alhussain, 2012, p.1).

Universities deployed e-learning technologies for various reasons among which are:

- It is natural for students, who are mostly digital natives who like using technology at the least opportunity,

- It makes students attain the twenty-first century (C21st) skills that is necessary for survival in knowledge economy and technologically advancing world,
- It enhances the technological competency of students,
- It prepares students for the working world that uses technology to enhance productivity,
- It prepares students for lifelong learning,
- It is one of the ways that organizations are using for staff professional development,
- It is a means by which institutions develop digital dexterity among key stakeholders of teaching staff and students.

The University of Cape Coast started using e-learning via a WebCT learning system management (LMS) to support the traditional face-to-face (F2F) learning in 2003 when it became a Learning Centre for Africa Virtual University (AVU)/ Royal Melbourne Institute of Technology (RMIT) Bachelor of Science in Computer science degree. In 2006, the Computer Centre conducted a survey on the preferred instructional delivery mode to both the pioneering group of UCC/AVU/RMIT BSc Computer Science students and their counterpart studying BSc Computer Science at UCC. The result indicated their preference for blended learning mode of teaching and learning. In 2007, the Computer Centre installed a Moodle e-learning system and since then the system has been used successfully for many courses among which are BUS303/EMG302-Management Information System 1 and BUS304/EMG303-Management Information System 2. With regards to e-learning, the university e-learning strategy plan for 2012-2017 defines e-learning as

E-Learning is learning which is enhanced, supported, mediated or assessed by the use of electronic media. E-learning may involve the use of new or established technology and/or the creation of new learning material; it may be deployed both locally on campus for both regular and sandwich students and at a distance by students for College of Distance Education and Institute of Education.

It went further to state that “though optical disc and television broadcasting are electronic media, in the definition the above, our preferred electronic media is the Internet via a e-learning platform such as Course Management System (CMS)/Learning Management System (LMS) using its tools or features as and when applicable to achieve a learning objective”. Finally, the document identifies that e-learning continuum and describes the various types of e-learning courses that can be offered in UCC:

- **Web Supported course:** Also known as “Traditional course with technology elements”, “enhancements to traditional course”, “Web Facilitated course” This course is a face-to-face that the lecturer teaches all sessions in the classroom with PowerPoint but with the occasional use of technology, such as discussion forum, multimedia simulations, wiki, virtual labs, glossary, and/or online assessment. This results in web supported learning.
- **Blended course:** Also known as hybrid course. In this course the lecturer combines elements of online learning courses and traditional courses. Online forums or Web-based activities replaces portion of classroom sessions. The result is blended learning.
- **Online course:** All the instruction in this course takes place online without face-to-face meetings between students and lecturer, neither in the classroom nor via video-conferencing. This results in online learning. (UCC ICT Strategy plan, 2012, pp.25-28).

There has been growing use and acceptance of online learning by institutions, teaching staff and students (Poulin, & Straut, 2016; Tabs, Waits & Lewis, 2003). In fact, Poulin, & Straut (2016) stated that the number of students enrolled in at least one distance in United States of America, where distance programmes increased 1.6 million (2002) to 4.6 million (2008) to 5.8 million (2014). Allen & Seaman (2010), also said “Over 4.6 million students were taking at least one online course during the fall 2008 term; a 17 percent increase over the number reported the previous year”. The number of students enrolled for distance education (Poulin, & Straut, 2016) was the same as the number of online enrolled students (Allen & Seaman, 2010), which was 4.6 million, thus distance learning and online learning are used interchangeably in United States and most developed nations. The instructional medium, which carries content to learners can enhance or hinder the learning process. It is thus important to assess learners’ perceptions on their own use of technology in learning. Such learners’ views are critical in that if they consider the technology to be helpful to their learning, then they will have greater motivation to use the technology (Bernat & Gvozdenko, 2005). The ultimate aim in e-learning just like any teaching-learning process is that learning should take place and instructional objectives met. This can be verified by evaluating learners’ experience among the use of summative assessment. That is why in most e-learning endeavours; the learner’s experience is sought at the end of the course through exit surveys. By so doing the creators would ascertain whether or not learners were satisfied after participating in the e-learning. Information from such exercise can be used to formatively guide the planning and activities in subsequent courses. Participants’ attitudes to ICT or their satisfaction with the e-learning experience are the focus of studies on e-learning that address the affective areas of participants (Neville, Lam & Gordon, 2015). The positive online experience of participants is one of the indicators of the quality of e-learning and one of the means of improving this involves addressing students’ perceptions of their e-learning experience and how it can be useful for learning (Ellis, Ginns & Piggott, 2009, p.316). Participating in e-learning involves accessing digital contents (in the form of e-books, pdfs, PowerPoints, videos,

images/infographics, audios/podcasts) and engaging in online activities (using tools such email, discussion forum, webinar, wiki, online games, online brainstorming). Participants' consumption of these materials and involvement with these activities led to meeting the instructional objectives of the courses and thus understanding. How students perceive and use the activities and materials represent one of the keys to unlocking the full value of e-learning in the student learning experience at university (Ellis, Ginns & Piggott, 2009, p.316). Students experience indicates what worked and what didn't work for them in achieving the learning outcome. Such information becomes handy to designers in making the course better next time. Learners' perception and use of contents and partaking in activities (Ellis, Ginns & Piggott, 2009, p.316) as well as the ease and confidence in doing them in order to meet the instructional ends or successfully complete learning tasks (Bandura, 1989) are keys to unlocking the full value of e-learning in their learning experience. The services provided by LMS need be quantified and qualified by students, the major users of such system with the aim of identifying its strengths and the weaknesses and appropriate remedy provided. This will lead to increasing and enhancing the role played by LMS in providing satisfying and enjoyable online and blended learning experiences. Klimoski (2007) argued that (as cited in Ituma, 2011, p.4) "there is the need for studies that explore students' perceptions of e-learning systems, to enable instructors develop a better understanding of students' experience in order to enhance their satisfaction and performance".

Thus the main objective of the study is to explore the perceptions and engagement of Business students of the university of Cape Coast in their use of a typical e-learning system—Moodle learning management system. But the specific objectives are:

- To ascertain students' readiness for e-learning;
- To determine the perception of students of the different components of a typical e-learning system;
- To identify students' issues with the use of e-learning at UCC.

With the price computing devices falling, more students now owning internet-capable mobile computers and devices than ever before (Dahlstrom Brooks, Grajek, & Reeves, 2015). Students find laptops more convenient for many learning activities though they are very receptive to using mobile devices to support their learning (Kukulska-Hulme, Pettit, Bradley, Carvalho, Herrington, Kennedy & Walker, 2011). The provision of online web tools and participating in online activities (Chan, Chow & Cheung, 2004; Rafaeli and Ravid, 1997) as well as the incorporation of self- testing assessments with feedback when combine face-to-face learning appear to significantly increase student performance and understanding (Korkofingas & Macri, 2013). Moreover, increases in the overall time spent online (accessing course content, searching for additional examples, add, notes, references, etc.) has a positive effect on student performance (Korkofingas & Macri, 2013; Igor Ryabov, 2012).

METHODS AND DATA SOURCES

The research design adapted was a descriptive survey developed through literature search to solicit responses from students' experience in using e-learning platform (self-assessment or perception) in areas of ownership of computing devices to connect to the platform, proficiency and frequency of using the said devices, generic online activities they engaged in. Regarding the views on the Moodle platform, areas covered by the study include their impression, its perceived benefits and issues as well the identifiable favourite features. As per the objectives, only respondents with e-learning experience were considered thus a purposive sampling technique was employed in this study with an online Google form questionnaire used in collecting data. A pilot study of the questionnaire was carried out on thirty students. Based on the feedback received, necessary modifications were made to the wordings and relevance of some questions. The final questionnaire that was used consisted of both opened and closed-ended questions as well as four-point Likert-type scales questions.

Third year (level 300) students pursuing Bachelor Management Studies (from the Department of Management, School of Business) and Bachelor of Education –Accounting major (from Department of Business and Humanities Education, Faculty of Business and Humanities Education) for the 2015/2016 academic year were the target group for this survey. These groups have studied two semesters' courses on Management Information Systems I and II entitled BUS303 (for first semester) and BUS304 (for second semester) for the School of Business students with those from the Faculty of Business and Humanities Education as EMG302 (for first semester) and EMG303 (for second semester). These 3-credit hour courses were face-to-face with web-enhancement using the MOODLE 3.0 version. The materials used for the courses were uploaded unto the said platform including the recommended books, videos and PowerPoint presentations of weekly chapters. Participation on the platform was mandatory since it was an extension of the class. At the time of collecting data, students enrolled in the above-mentioned courses were the only students using e-learning to supplement the face-to-face course at the university.

Thus the expected population for targeted groups was 414 with 272 from the School of Business and 142 from the College of Educational Studies. Email was sent to the 414 students with a link of the questionnaire from Google form at the end of the second semester. Finally, a series of face-to-face focus group discussion was conducted on the open-ended questions.

Participation was voluntary and participants were assured of the confidentiality of their responses. In all 349 students completely filled the online questionnaire indicating a response rate of 84.3%, which was deemed adequate for the study. The

data of the survey were analyzed using the SPSS 20.0 forming the primary data source used to create the tables from this section onwards. The demographic data of participating students is shown in Table 1.

Table 1 *Demographic data of students*

Measure	Item	N	%	Cumulative %
Sex	Male	230	65.9	65.9
	Female	119	34.1	100.0
Course	BUS 303 and BUS304	228	65.3	65.3
	EMG 302 and EMG 303	121	34.7	100.0

Source: Field data, 2016.

As shown in Table 1, majority of the respondents were male, which reflects the students' population of the university were predominately males. Regarding programmes, majority of the respondents were studying business. Though UCC has more students pursuing Education than any other programmes, Management Information Systems is a mandatory course for all business students and optional for Education students except those majoring in either Accounting or Management. This is the reason why there are more respondents from School of Business than Faculty of Business and Humanities Education.

RESULTS AND DISCUSSION

Objective 1: Ascertaining students' readiness for e-learning

Table 2 *Internet skill levels and ICT ownership device of Respondents*

Measure	Item	N	%	Cumulative %
Internet skill levels	Never used the Web	0	0	0
	Beginner	0	0	0
	Novice	104	29.8	29.8
	Competent	112	32.1	61.9
	Proficient	133	38.1	100.0
Computing device ownership	Yes	311	89.0	89.0
	No	38	11.0	100.0

Source: Field data, 2016.

Table 2 indicates that more than three-quarter of the respondents own computing device to aid them to connect to the Internet. With the falling price of computers and smart phones as well bandwidth more students have access to the Internet (Murphy, Farley, Lane, Hafeez-Baig & Carter 2014). Since e-learning is learning with ICT, ownership of computing devices that is capable of connecting to the e-learning platform either via the Internet or Intranet is key and a necessary requirement for a successful and enjoyable online experience. Ownership of computing devices enhance learners' owning their own learning. As computer ownership grows across the globe due to fall in price, e-learning is becoming increasingly viable and accessible (Epignosis, 2014, Becta, 2005). Also computer access is regards as a factor of computer technology acceptance (Henderson, 2005). Again, for students to benefit from an ICT-driven course using e-learning, they should be ICT proficient or skilled, which is also necessary for e-learning success. ICT skill is positively related to the effectiveness and efficiency of users' performance on the e-learning platform (Pretorius & Van Biljon, 2010, p.41; Van Biljon & Pretorius, 2009, p.253; Law, Atkins, Kirkpatrick & Lomax, 2004). Van Biljon & Pretorius (2009, p.250) grouped Internet experience level into: never used the web; beginner (have read pages on the web); novice (have entered addresses and used bookmarks); competent (can use a search engine to find information); proficient (know way around and have done Web transactions like e-banking).

In this respect, students were asked to indicate their Internet skills level. All of the respondents were knowledgeable in using the web since none of them indicated that they lacked Internet skills.

Table 3 shows that the operating systems (OS) of choice are Windows 7-10 and Android, which have fewer numbers of students that spend 0% of their time using devices powered by the said operating systems. This confirms the undisputed fact that both Windows (Honye & Thinyane, 2012; Nasaka, Takami, Yamamoto, & Nishigaki, 2011) and Android (Lixandroiu & Maican, 2014; Reza & Mazumder, 2012) are the world's most used operating system for desktop/laptop and mobile devices respectively. With regards to the afore-mentioned operating systems (Windows 7-10 and Android mobile), 59.9% respondents spend at least 61-80% of their day using the Windows driven devices while 75.1% of the respondents spend at least 61-80% of their day using the Android powered devices. The implication is that these students are actively using computing devices. Thus it would not be much difficult to participate in online class activities though heavy online users may not necessary succeed in

online courses since the courses may not be technology thus understanding of the subject matter is still the key. The advantage of heavy online users is that they are not technophobia, which can negatively affect students' participation on online learning. Time spent online is considered as a performance metric for student's online participation (Ng, Zakaria, Lai & Confessore, 2016, p. 433; Damianov, Kupczynski, Calafiore, Damianova, Soydemir & Gonzalez, 2009) that is capable of yielding higher grades (Calafiore & Damianov, 2011; Kirkorian, Wartella, & Anderson, 2008; Carvin, 2006).

Table 3 Percentage of time per day spent using various Computing devices

% of time	Windows 7-10		Mac OS		Linux/ Ubuntu		iOS Mobile		Android		Windows Mobile	
	N	%	N	%	N	%	N	%	N	%	N	%
0	13	3.8	231	66.2	266	76.2	208	59.6	19	5.5	155	44.4
1-20	42	12.0	57	16.3	34	9.7	37	10.6	28	8.0	62	17.8
21-40	45	12.9	21	6.0	20	5.7	37	10.6	15	4.3	21	6.0
41-60	40	11.5	15	4.3	15	4.3	27	7.7	25	7.2	29	8.3
61-80	110	31.5	18	5.2	13	3.7	18	5.2	55	15.8	47	13.5
81-100	99	28.4	7	2.0	1	0.3	22	6.3	207	59.3	35	10.0
Total	349	100.0	349	100.0	349	100.0	349	100.0	349	100.0	349	100.0

Source: Field data, 2016.

Table 4 show what students use their electronic devices for. It can be seen that most of the respondents use the smaller devices (smart phone/tablet) for non-academic activities (personal life and social networking) whiles they use larger devices (netbook, laptops, & desktop) for academic activities (research and study).

Table 4 The use of technology

Activity	Smart phone (iPhone/Android/Windows Mobile)		Tablet device (iPad; Galaxy Tablet etc.)		Netbook		Laptop machine		Desktop machine	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Personal life	146	41.8	117	33.6	102	29.2	46	13.1	107	30.7
Research	43	12.3	53	15.2	73	20.9	82	23.5	44	12.6
Social Networking	85	24.4	68	19.5	32	9.2	7	2.0	10	2.9
Study	75	21.5	111	31.8	142	40.6	214	61.4	188	53.9
Total	349	100	349	100	349	100	349	100	349	100

Source: Field data, 2016.

This is evident when for academic activities of research and study; 33.8% uses smart phones, 47.0% uses tablets, 61.5% uses netbooks, 84.9% uses laptops, and 65.5% uses desktops. The converse is evident for non-academic activities of personal life and social networking; 66.2% uses smart phones, 53.1% uses tablets, 38.4% uses netbooks, 15.1% uses laptops and 33.6% uses desktops. Therefore, fewer students use mobile devices for academic purposes. This because the design of most LMSs and websites have not to be optimize for mobile devices thus making navigating and scrolling very difficult or not user-friendly. Also some Lecturers suspect that anytime students use mobile devices especially smartphones in class, they are being used for non-academic purposes (SMS, WhatsApp) thus disallowing their used in the class.

Objective 2: Determining students' perception of the different components of the Moodle system

The main tool for any e-learning course is the learning management system (LMS) also known as course management system (CMS) or virtual learning environment (VLE) among others. Klobas and McGill (2010) defined LMS as information systems that facilitate online learning by supporting teaching and learning as well as performing administrative tasks and facilitating communication between instructors and students. Any institution wanting to take online learning serious can't do without a e-learning platform of a sort for the online activities. Students were asked on their impression about the Moodle platform, the LMS used to support the delivery of the course and their responses are shown in Table 5. Students acknowledged the positive possibilities that the platform affords, which are listed in Table 5.

Table 5 Students' impression of Moodle

Item	Strongly Agree	Agree	Disagree	Strongly Disagree	Total	Composite Mean
a) Moodle is easy to use.	83 (23.8%)	185 (53%)	55 (15.8%)	26 (7.4%)	349 (100%)	2.1
b) Using Moodle for this course can improved my learning.	231 (66.2%)	76 (21.8%)	14 (4.0%)	28 (8.0%)	349 (100%)	1.5
c) I have a positive overall experience using this platform.	125 (35.8%)	179 (51.3%)	29 (8.3%)	16 (4.6%)	349 (100%)	1.8
d) I would like to take courses with this platform.	179 (51.3%)	120 (34.4%)	31 (8.9%)	19 (5.4%)	349 (100%)	1.7
e) Class content is accessible anytime, anywhere and anyhow.	207 (59.3%)	142 (40.7%)	0 (0.0%)	0 (0.0%)	349 (100%)	1.4
f) Accessing online reading materials for campus-based courses is not useful to me.	24 (6.9%)	32 (9.2%)	198 (56.7%)	95 (27.2%)	349 (100%)	3.0
g) Downloading contents wasn't easy so I have copy them from colleagues.	56 (16.0%)	76 (21.8%)	107 (30.7%)	110 (31.5%)	349 (100%)	2.8
h) You have to be 'IT expert' to use the Moodle platform.	80 (22.9%)	69 (19.8%)	134 (38.4%)	66 (18.9%)	349 (100%)	2.5
i) Learning online was stressful and difficult.	102 (29.2)	62 (17.8%)	70 (20.1%)	115 (33.0)	349 (100%)	2.6
j) It encourages students to miss the face-to-face sessions.	135 (38.7)	35 (10.0%)	78 (22.3%)	101 (28.9)	349 (100%)	2.4
Composite Mean	122	98	72	57		2.2

Means were computed on a scale that range from 1 = Strongly Agree, 2 = Agree, 3 = Disagree, 4 = Strongly Disagree
Source: Field data, 2016.

From Table 5, it can be observed that students have positive impression about their use of Moodle learning platform. This is evident by majority of the respondents— 268(76.8%), 307(88.0%), 304(87.1%), 299(85.7%) and 349(100%) — agreeing to items with positive statements (a) to (e) respectively. On the other hand, fewer of the respondents — 56(16.1%), 132(37.8%), 149(42.7%), 164(47%), and 170(48.7%) —were agreeing to items with negative statements (f) to (j). These concur with general observation that most students have positive view of LMS (Palmer & Holt, 2014; Ituma, 2011; Waycott, Bennett, Kennedy, Dalgarno & Gray, 2010) with female students having a more positive attitude to e-learning than their male counterparts (Keller and Cernerud, 2002; Selwyn, 2008). A composite mean indicates that 220 (63%) of the respondents at least agrees (composite mean of 2.2) to the ten (10) Likert statements in the said table. Such positive impression has the potential of soliciting the cooperation of students with regards to their use of the e-learning platform, which influence their future in-take of courses that use such platforms.

Table 6 Students identified benefits of using Moodle in UCC

Items	Frequency	%
(a) Taking quizzes anywhere and having instant result	340	97.4
(b) Facilitate communications between lecturers and students.	264	75.6
(c) Aid sharing information.	110	31.5
(d) Assist collaboration among colleagues.	86	24.6
(e) Supporting lifelong learning.	36	10.3
(f) Support different learning styles and life styles,	29	8.3

Source: Field data, 2016.

Moodle like any educational technology has the capabilities to be used for activities that augment or go beyond face-to-face instructional delivery. Students were asked to indicate at least one benefit of using the Moodle platform. This item was the

first of open-ended question asked. The vast majority of students (97.4%) indicate their ability to write quizzes anywhere, anytime and anyhow as the one identified benefit. This concurred with Hirschel (2012) who indicated that Moodle quiz was popular and students' response to it was overwhelming positive. This was followed by an overwhelming majority of students (75.6%) choosing their capability of communicating with lecturers was identified as the second most beneficial followed in distanced third by the sharing of information (31.5%). Student–instructor communication/interaction is one of the greatest predictors of student satisfaction in online learning that has positive effect on them (Croxtton (2014, p.318; Young & Norgard, 2006). Though it is mandatory for lecturers at UCC to indicate when they are free for students to contact them, it is usually difficult for a large class but with technology such as e-learning is possible that is explains the highly ranked choice of Student–instructor communication.

Table 7 Which features of Moodle were most useful to students?

Items	Frequency	%
(a) Taking exams and quizzes online	335	96.0
(b) Keeping track of marks on assignments and quizzes	330	94.6
(c) Communicating using online discussion board	319	91.4
(d) Accessing digital readings materials	302	86.5
(e) Email communicating with Lecturers	268	76.8
(f) Listening to or viewing video materials	235	67.3
(g) Accessing an online syllabus	213	61.0
(h) Communicating with colleagues using email	110	31.5
(i) Editing document with wiki	67	19.2

Source: Field data, 2016.

E-Learning is concerned with the learning activities, resource access, communication, and assessment undertaken in an online environment (Neville, Lam, & Gordon, 2015, p.75). It is commonly argued that web-facilitated tools (e.g., online testing, discussion boards, emails, webinar and virtual chat) encourage students to actively participate in online learning activities that are expected to improve academic performance (Hardaker & Smith 2000; Karayan & Crowe 1997). Students were asked to express their views on the various online activities they were engaged in that indicates their assessment of the said features of Moodle learning management system. Table 7 shows their responses on the said matter. The response indicates that most of the students considered the listed feature as most useful except two “emailing among students” and “editing wiki document”.

Prior to their enrollment to the said courses, students write paper-based quizzes and exams and some either get their marked result later in the semester or never get it. That is why the vast majority of students (96%) highly ranked “writing quizzes and exams online”. The quizzes were done anywhere on a specified date and time without supervision whiles the examinations were supervised at the ICT Centre. Online quizzes and exams enabled students to have their results instantly thus being able to monitor their progress for the course (94.6%), which was difficult for most face-to-face large classes. Students' contributions to some discussion forums were marked hence another highly ranked activity (91.4%). Discussion forums were used as extension of the face-to-face class sessions –discussing lesson taught and providing answers to students' queries. Among the three types of interaction—student-content, students-instructors, and student-student—it was the latter that is least used. This is an indication of that meaningful learning may be taking place in accordance with Interaction Equivalency Theorem by Anderson (2003), which stated that “deep and meaningful formal learning is supported as long as one of the said forms of interaction is at a high level”. For face-to-face courses like ours, verbal conversation and using messaging systems (such as “whatsapping” and “texting”) among students are the preferred means of communication than emailing. Wiki tool enable students to edit the same document online synchronously or asynchronously. It demands advanced editing skills, which not every student possess. The activity to edit a wiki was redone several times due the table being meshed up on several occasions. The most preferred feature is the capability to have access to marks of activities done on the platform, which 94% of students selected. This will enable them to monitor their performance, which is a good thing.

Objective 3: Identifying students' issues with the e-learning at UCC?

Students were asked to identify the challenges they encountered while using the platform. This item was the second of open-ended question asked. All the issues raised should be taken seriously since it can affect students' acceptance of e-learning to blend with face-to-face. Table 8 shows themes gathered from students' responses.

Table 8 *Students identified issues of using Moodle in UCC*

Items	Frequency	%
(a) Frequent system failures	330	94.6
(b) Lack of student support services	319	91.4
(c) Spending too much time online activities.	310	88.8
(d) Too many tools and links.	302	86.5
(e) Lack of continual use of the LMS in UCC	234	67.0

Source: Field data, 2016.

Many systems come together to make up a complete e-learning system any of these systems can be a point of failure, which may account for this issue being the number one identified. System failure can be as a result of lack of Internet connectivity, faulty networking device (such as Server-Moodle or Web or switch or router) or exhaustion of bundled data for mobile users, who are not connecting from the university's intranet via Wi-Fi. Though the situation as improved, Annor-Frempong, & Edumadze (2009) pointed out that inadequate infrastructure at University of Cape Coast poses challenges to many students who want to use the Internet for academic purposes.

Lack student support was considered to be the second ranked issue. This could come from lack of students training on the use of the platform or lack of staff to fix students' problem. Students expect technical support from either tutors or the organization (Young & Norgard, 2006).

The issues of "spending too much time online activities" and "too many tools and links" may lead to overloading students, which is one of the complaints of students on e-learning (Kushnir, 2009, Hiltz & Wellman, 1997). Things that might contribute to the issue of "spending too much time online" might be slowness of Internet connectivity, slowness in typing and loading students with a lot of online activities among others. Others support this issue at hand such as Sharma, Ekundayo and Ng (2009) who alluded that "e-learning places high demand on learners who have to be more proactive and disciplined than in traditional face-to-face education". Apart from the recommended books and its accompanied PowerPoints, most of the materials for the said courses were open education resources (OERs) and YouTube videos thus the many links.

The lack of continuity in the use of e-learning to supplement the courses at the University of Cape Coast is something that should be relooked since it is optional. Thus most lecturers do not use it. With the ever-increasing use of e-learning and m-learning to radically transform learning and teaching in universities all over the world (Calafiore & Damianov 2011; Romiszowski 1997; Eastmond & Ziegahn 1995), the university of Cape Coast cannot sit on the fence. The university's own e-learning policy states that by 2018, about 50 per cent all courses should be enhanced with the Moodle platform but at the time of writing, over 99.99 per cent do not use the system.

FINDINGS

Objective 1: To determine students' readiness for e-learning.

All of the students considered themselves to be at least novice with their Internet skill with overwhelming majority of them (89%) owning their computing devices(s) such as desktops, laptops, netbooks, tablets and smart phones. For each day, majority of the students spend at over half of their time using devices driven by windows and Android. Majority of the students use devices with large screen size (netbook, laptop and desktop) for academic activities of study and research while they used mobile devices—smart phone and tablet— when performing non-academic activities (personal life and Social networking). This implies that students surveyed are prepared and ready for e-learning.

Objective 2: To determine the perception of students in using different components of Moodle e-learning system.

Large majority of the students 220(63%) have positive impression on their use of Moodle to supplement the campus course. Again overwhelming majority of them consider the ability to taking quizzes anywhere and having instant result i.e. 340 (97.4%) and facilitating communications between lecturers and them i.e. 264(75.6%) as the most useful aspect of using the platform. Finally, apart from email communication with colleagues i.e. 110 (31.5%) and wiki editing document i.e. 67(19.2%), majority of the students liked all the features of Moodle used for the course such as taking online quiz and knowing the mark obtained, participating in discussion forums, assessing digital course materials and email communication with the lecturers of the course. Students actively participate and highly ranked activities that yield rewards in the form of marks/grades.

Objective 3: To identify students' issues with the e-learning at UCC?

The issues identified by the students are very critical that can unmake the e-learning at the University of Cape Coast or any other university when they are ignore and not taken serious. These issues could be grouped into the following:

- Technical (Frequent system failures)
- Pedagogical (“Spending too much time online activities”, and “ Too many tools and links”)
- Administrative (“Lack of student support services” and “ Lack of continual use of the LMS in UCC”)

CONCLUSION

With respect of the first objective, majority of the students own of computing devices spending at 61-80% of each day on digital device and use these devices for academic purposes of studying and researching. Thus they are ready for e-learning. Moreover, with majority of students using mobile devices for non-academic activities of personal life and social networking, there is room for mobile learning (m-learning) which is an aspect of e learning. In other words, this is an indication that mobile learning should be popularized in the university. This is because m-learning is considered to be the future of learning (Alzaza, & Yaakub, 2011, p. 6; UNESCO.2013, p.13) especially in Africa is one of the continents with highest mobile phone penetration. As mobile devices become more personal, so should it learning application be utilized. The good news is that the established e-learning systems have developed m-learning alternative so avenue has been provided for m-learning thus the university use this opportunity for her technology enhanced learning. Also in other not to create a digital divide between students have means of accessing the e-learning platform and thus participate in the online activities and those who don't have, access problem has to be solved. This will ensure level playing field for all students i.e. the issues equality in the access of the e-learning platform and tools is address. This can be done through hire purchasing scheme for digital devices facilitated by the university or university establishing computer laboratories that would operational 24×7×365 when students are on campus. Again the university should increase her wireless signal to not only the offices, campus residential facilities of staff and students but also to students' hostels outside the campus. This will create a much better learning environment due to the non-existence of such facilities once lectures are over and the lecture halls are being used for scheduled lectures.

On the third objective, learning management system (LMS) is a key factor to ICT-mediated teaching/learning that the university is desirous in pursuing. Between the student and the LMS, there are many points of failures, which can negatively impact students' experiences. Thus all identified issues raised must be look unto and solution provided that would eliminate it or drastically reduce its impact of students' acceptance of the LMS. Furthermore, the university should take a serious look at it ICT infrastructure and upgrade it to the point where downtime would be negligible. Robust and redundant infrastructure is a pre-requisite stable e-learning system. An e-learning Centre should be established to help with the training of both staff and students in using the platform as well as fix problems pertaining to the Moodle platform. Once this is done, it would make both instructors' online teaching and students' online learning easier and enjoyable. Finally, care must be taken not to overload students with a lot of activities remembering the credit hour of the course as well as workload from other courses when designing online activities. The class sessions should therefore alternate between face-to-face and online sessions say 2 hours of face-to-face and 1 hour of online activities or reverse depending on the lesson objectives. Overloading students has the propensity to negatively affect their acceptance of e-learning. Since technology cost money and its uses cost time and effort, everything should be done to make e-learning impact positively on the teaching/learning process thereby encouraging its use. Finally the university's e-learning policy must be enforced with lecturers being motivated as well as mandated to use either the Moodle system or any other system such as the Google's Classroom, which is part of the G-suite that has been activated for all staff and students of the university. Students will definitely come the LMS and use it if Lecturers place content on them thus the former is the key to the continuous use of e-learning at the University of Cape Coast.

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