



Evaluating the Awareness and Perceptions of Lecturers in using E-Learning Tools for Teaching in University of Cape Coast

John Kwame Euafo Edumadze¹, Theophilus Aquina Ossei-Anto², Gladys Edumadze³,
Wisdom Kwadzo Tamakloe⁴, Eric Asamoah⁵ and Ernest Boadi⁶

^{1, 4, 5, 6}Computer Centre, University of Cape Coast, Cape Coast, Ghana

²Department of Science & Mathematics Education, University of Cape Coast, Ghana

³Department of Management studies, University of Cape Coast, Cape Coast, Ghana

Abstract

E-learning has become increasingly important in the contemporary universal-access of education especially at the tertiary level, and can provide a strategic and competitive advantage to a university such as the University of Cape Coast (UCC). The objective of the study was to assess the awareness and perceptions of lecturers in using e-learning tools for instructional delivery in the University of Cape Coast. Specifically, the study sought to investigate the state of the awareness and perceptions of lecturers in incorporating e-learning tools in their lesson preparation and delivery. The target population was lecturers of UCC and responses were obtained from 128 lecturers who were randomly sampled for the study.

The study revealed among other things that, many lecturers fail to use e-learning tools because they are not proficient in using them. Nevertheless, they are ready or willing to participate in programmes to equip them with the requisite skills that will make them proficient in using the e-learning tools.

The study recommends among other things that the Computer Centre of the University should educate the lecturers on e-learning and give them the necessary training that will equip them in using the e-learning platform (Moodle) that the university had installed since 2007. Also, the University should provide reliable Internet and computer access coupled with adequate technologically enhanced classrooms and laboratories to facilitate the integration and use of e-learning tools by lecturers in their instructional delivery.

Keywords: Awareness, Perceptions, Lecturers, e-learning, Moodle, instructional delivery.

Introduction

The computer has changed society today as much as the industrial revolution changed society in the eighteenth and nineteenth centuries. The economies of countries, such as the United States of America and China, are boosted by digital technologies, resulting in tremendous increases in productivity. One may interact with computers in many fields of which education is one. Others include health care, science, publishing, travel, and industry. Computers are used in education, among others, as an electronic means of supporting teaching and learning [1].

Today, educators are turning to computers to assist with education by the use of digital technologies to support teaching and learning. This is known as e-learning or eLearning or electronic learning. Due to the advantages associated with e-learning, which is a benefit of Information and Communication Technology (ICT), governments of countries in the world tend to provide policy and implementation support for ICT in order for schools to use e-learning to support teaching and learning. For instance, as part of the policy statement of the Government of Ghana with respect to ICT, part of government's mission is to: "transform the educational system to provide the requisite educational, and training services and environment capable of producing the right types of skills and human resources required for developing and driving Ghana's Information and Knowledge-based economy and society" [2].

The term e-learning defies a single definition. [3] define e-learning as Web-Based Training (WBT), [also known as on-line learning], or as training that resides on a server or host computer that is connected to the world wide web. They considered e-learning as belonging to Technology-based training that is delivered partially or entirely through electronic hardware, software or both. [4] confines the definition of e-learning to the use of internet technologies to deliver a broad array of solutions that enhance knowledge and performance. This is based on three fundamental criteria: networked; delivered to the end-user via a computer using internet technology; and focuses on the broadest view of learning.

From the above definitions, it can be concluded that e-learning is basically the use of technology in learning opportunities or a method for the delivery of learning packages. E-learning encompass flexible learning as well as distance learning, and the use of ICT as a communication and delivery tool between individuals and groups to support students and improve the management of learning by instructors (lecturers).

Statement of the Problem

The University of Cape Coast (UCC) has stated clearly in its Corporate Strategy [5] to integrate e-learning in its teaching and learning process since e-learning is a way of enhancing student centered learning (SCL). In this way, well packaged tutorials (course materials) can be prepared by lecturers and delivered to students in the form of presentation slides, test materials, video tutorials, e-books, computer-based training (CBT), and web-based training (WBT). Hence,

the study sought to underscore the awareness level of the lecturers, their perception of using the e-learning tools, how e-learning is being utilized, advantages associated with the use of e-learning tools, problems associated with using e-learning tools, and the improvements that need to be made in order to fully utilize e-learning tools for instructional delivery.

The thrust of the study was to address the following pertinent questions:

- Are lecturers of UCC well aware of the availability of e-learning tools to deliver instructions to students?
- Do lecturers of UCC perceive the approach of e-learning tools to deliver instruction as useful and relevant?
- How prepared are lecturers of UCC to integrate and use e-learning and its tools to deliver instruction?
- Are the infrastructures adequate to support e-learning in UCC?

Significance of the study

Research studies around the world show that ICT helps to broaden access to education as well as improve learning outcomes. But research also indicates that success in using ICT in education depends on teachers' skill in integrating ICT into pedagogy and in utilizing ICT to provide learner-centred interactive education [6]. The lecturer's role is an important factor in the design of online learning environments in that various roles can be supported Reeves and Reeves cited by [7]. Consequently, this study was to know the awareness of e-learning among lecturers who will be the primary users of the technology when implemented. It was our belief that the study would reveal the state of the use of e-learning tools in instructional delivery by the lecturers of UCC, as well as measure the achievement of the University with regard to the statement made in its Corporate Strategies [5] to integrate e-learning as a means of instructional delivery. It was also our hope that the outcome of the study could provide a basis for identifying any area of lack or improvement in the use of e-learning tools by the lecturers of UCC.

Review of Relevant Literature

[8] identifies adoption, readiness, confidence, and e-learning training, as some key parameters used in measuring perception of staff towards using e-learning. From our experiences with e-learning, we concentrated on these parameters since they are cardinal for lecturers' uptake of the technology in instructional delivery.

E-learning Adoption. Adoption refers to the decision to start using something such as an idea, a plan, a name or a technology. In the case of e-learning, adoption refers to the decision of schools, instructors or educators as well as students to use e-learning and its tools for instructional delivery and learning. Research on e-learning adoption indicates that although the number of courses that incorporate ICT have increased dramatically in the last three to five years, e-learning has not reached its potential. Adoption of e-learning in the university context is influenced by a number of factors, including organizational, socio-cultural, intra- and -interpersonal characters to mention a few [9]. Again [10] show that "tutor's utilization of Learning Management System (LMS) such as Blackboard, web CT and Moodle was highly correlated with their levels of adoption of e-learning". Due to the advancement and user-friendliness of today's software, it does not take very long for a teacher or a lecturer to upload their course on-line using an LMS. The use of ICT tools (especially those incorporated in a University LMS) is quickly becoming a routine task in many universities.

E-learning Readiness. Readiness ordinarily refers to the state or condition of an individual that makes it possible for him/ her to engage profitably in a given learning activity. E-learning readiness, however, refers to the state or condition of schools, instructors as well as students to engage in using e-learning as a means of educational package delivery. E-learning readiness has many dimensions and focuses on these questions: Do the schools have the needed software and hardware? Which strategic objectives will the e-learning initiative meet? Are there instructors? The heart of e-learning has three parts: School, Instructor and Learner. Thus, an effective readiness evaluation should consider each component thoroughly. E-learning readiness evaluation is one of the most critical stages of e-learning in an organization or school. Decisions made at this level greatly impact the success of an e-learning project. If the learner's, student's, instructor's, school's or organization's needs have been profiled, the likelihood of success is much greater.

E-learning Confidence. Confidence refers to the feeling that one can trust, believe in and be sure about the abilities or good qualities of something or somebody. However with e-learning, confidence indicates the user's trust, belief in and surety about the abilities or good qualities of e-learning. The confidence and perception of instructors or trainers affect the learning capabilities of the student or learner. With e-learning, learners come to an e-learning experience with their own

perceptions and levels of confidence, with regard to the use of technology itself. In ICT we should concentrate much more on managing attitudes to e-learning, giving people real confidence to master the technology and to believe they really do have the control and ability to learn new skills and behaviour to improve their performance. By successfully managing these perceptions, the real value and impact of e-learning will rise. Since it is the lecturers or instructors that will deliver instruction, it is necessary that they increase their confidence in *computing skills* in order to effectively use e-learning for instructional delivery.

E-learning Training. Training is the process of learning the skill that one needs to do a job. Training is closely related to confidence since adequate training will ideally improve one's confidence level. Instructors or lecturers must be trained to use e-learning tool at their disposal if the full benefits of e-learning is to be obtained. Training as a factor will increase performance levels. Most lecturers in the developing world have not had the opportunity to use a LMS before and have challenges in their ICT skills. Thus training is key in overcoming these barriers to successful adoption of the e-learning system including. The training should not be restricted only to acquisition of new ICT skills but also on how to effectively teach with and use ICT in order to capitalize on the advantages of ICT in teaching and learning. Finally, in the training, lecturers must be made aware of their changing role as a result of implementing ICT in their classrooms, which Resta and Patru as cited by [11] describe it as teachers having moved from being "sages on the stage" to becoming "guides on the side". The lecturer who hitherto is "all-knowing" should be made aware that he/she should facilitate the learning process. The new role can perhaps be likened to that of a team coach or the conductor of an orchestra who tries to bring out the best performance in all players.

Methodology

Since the primary objective of the study was to assess the awareness and perceptions of using e-learning tools by lecturers at the UCC, we employed the descriptive survey design. This type of research design examines the incidence, distribution and interrelations among sociological, psychological and education variables, since a descriptive survey primarily involves the collection of data for the purpose of testing hypothesis or answering prevailing questions concerning the current position of the subject under study; and aims at determining and reporting how things look like with respect to established theories or assumptions on the subject. A critical look at these criteria implies that the study was in the right direction as it sought to investigate the awareness and perceptions of the use of e-learning tools by lecturers in the University of Cape Coast.

This study targeted the population of the lecturers of the University of Cape Coast. The study concentrated on 128 respondents out of the 451 lecturers who were at post in 2010 when the study was conducted. The sample of 128, which was made up of 107 (83.6%) males and 21(16.4%) females, came from all faculties and schools as follows: Agriculture-10 (7.8%), Arts-21 (16.4%), Business - 8(6.2%), Education - 22 (17.2%), Biological Science - 24(18.8%), Physical Science - 27(21.1%), Medical Science - 2(1.6%), and Social Science - 14(10.9%). The main instruments used for the research were questionnaires.

Results of the Study

The study sought to assess the awareness and perceptions of UCC lecturers in using e-learning tools for instructional delivery. The main e-learning parameters the study considered were perceived usefulness of e-learning, e-learning adoption, perceived barriers to e-learning, uneasiness, e-learning training and e-learning confidence. Out of the 128 respondents, 67 (52.3%) said they use

a form of technology for instructional delivery while 61(47.7%) indicated that they do not use any form of technology.

Use of Technology for instructional delivery. Respondents were asked of their use of technology for instructional delivery. Their responses are reflected in Table 1.

Table 1: Type of Technology used by Lecturers

Response	Frequency	Percentage (%)
Computer-based (PC, PowerPoint, projector, & Internet)	61	47.7
Not Applicable	67	52.4
Total	128	100.0

Table 1 indicates that 61(47.7%) of respondents use a form of technology for instructional delivery whilst 67(52.3%) do not use any form of technology. To be precise, Table 1 depicts that 61 (47.7%) of the respondents used technology mainly computer, PowerPoint presentations, and projector with the remaining 67(52.4%) responded as not applicable. It is important that the use of technology in teaching at UCC should be encouraged through the provision of laptops, projectors since most of our students are “digital natives” are yearning for it.

Awareness of Learning Management System (LMS). On their awareness of LMS, the study revealed that 97(75.8%) of respondents were aware of the term; 26(20.3%) they were not aware of the term, while 5(3.9%) did not respond to this item.

Perceived type of Learning Management System. On their knowledge of examples of Learning Management System (LMS), 44(34.4%) of respondents perceived tools such as PowerPoint, e-mail, discussion forum and the Internet as LMS, while only 2 (1.6%) perceived Moodle, blackboard as well as Skype as such. A surprisingly substantial high number of 82(64.0%) of the respondents did not respond. It is pertinent to point out that out of the tools listed, only Moodle and blackboard are examples of LMS. This indicates that 126(98.4%) of the respondents were unable to cite an example of LMS. It must also be pointed out that even though an instructional delivery involving the use of PowerPoint, e-mail, discussion forum and the Internet is electronic learning, yet these tools are *not* LMS per se, though LMSs need Internet and have tools such as email and discussion forum among others.

Prior use of a Learning Management System before. On the use of LMS, 34(26.6%) said they had heard of the term LMS while 86(67.2%) had not. 8(6.2%) did not respond. This could be due to the fact that at the time of data collection in 2010, none of the universities in Ghana was officially using LMSs.

Willingness to adopt LMS to supplement teaching. On whether or not they were willing to adopt the Moodle LMS installed at the University of Cape Coast to supplement their teaching, 122(95.3%) were affirmative. Only 3(2.3%) indicated their unwillingness to supplement teaching and learning with a LMS, while the remaining 3(2.3%) did not respond.

Willingness to communicate with students through Emails. Electronic mail (e-Mail) is the second most used tool/facility on the Internet after the World Wide Web (www). E-learning environment, e-mails are used in situations such as : sending students account details on the LMS platform for confirmation or when students change their passwords; lecturers sending a welcoming message to students; students sending personalized mail to other students or to the lecturer; and lecturers occasionally sending individualized mails to students having problems with their courses either by not submitting an assignment or not participating in the forum. On their willingness in using this email tool to communicate with their students, 117 (91.4%) responded in the affirmative while 2 respondents (1.6%) declined to have their students contact them through e-mail to solve course related problems. 9(7%) of the participants did not respond to this item.

Willingness to engage in online discussion forum with students. On the respondents' willingness to participate in an online discussion forum with their students on their course(s) when it is activated in the LMS, 121(94.5%) were willing to participate while 3.9% declined. 2(1.6%) did not responded. Table 2 shows how often the respondents were willing to engage in this activity with their students.

Table 2: Willingness to engage in an online Discussion Forum with students

Response	Frequency	Percentage (%)
Daily	14	10.9
Weekly	32	25.0
Whenever I have Time	9	7.0
Whenever I realize my contribution is needed in the Forum	67	52.3
Others	6	4.7
Total	128	100.0

Responses in Table 2 indicate that a particular situation determines how frequent a lecturer interacts with students with this tool. The usual thing perhaps to be done to is to create all of the activities that will use the tool either before a given course begins or when the need arises. Students could be encouraged to engage with one another in the medium with occasionally intervention of the lecturer to either enforce an idea raised or to bring the discussion on course when it is digressing.

Perception about E-Learning Adoption. Respondents were asked about their perception concerning e-learning adoption. 50.8% agreed that a LMS offers opportunity to improve teaching; 49.2% said that an e-learning course would improve the quality of education; 46.9% agree that an e-learning course would make their work easier; 57.0% indicated that they would like to develop and offer e-learning courses; 49.2% said LMS could enhance their professional prestige and status; and 48.4% agreed that a LMS can be of great benefit to the course they teach.

The timeliness of using LMS in UCC. Respondents were asked whether they thought the time had come for UCC to go online with some of her programmes. Their responses are reflected in Table 3.

Table 3: Readiness for UCC to go online with some programmes

Response	Frequency	Percentage (%)
Yes	124	96.9
No	3	2.3
No response	1	0.8
Total	128	100.0

Table 3 indicates that when asked whether or not it is time for the university to use LMS for teaching and learning, 124 (96.9%) felt the time had come for UCC to do so, with 3 (2.3%) feeling otherwise. Most Higher Education Institutions (HEIs) use LMS as their enterprise system for teaching and learning. In deed UCC should be counted among those using LMS to engage students. [12] reported that 99% of the universities in USA use one or more brands of LMS either to argument face-to-face interactions with students or use it as the platform for wholly online courses. More so, it has also been found that through LMS, students who are shy in face-to-face situations open up and in some cases class discussions continue to flourish even after regular lecture period is over. Finally, there are the possibilities created by LMSs for students to engage in critical thinking individually and collaboratively using e-learning tools. Companies are using this technology in training their staff and our UCC students should be made prepared to use such platform. [13] believed corporate e-learning is so important in today's digital world, where people are demanding just-in-time learning and lifelong learning. Students today become corporate employees tomorrow; they must be taught today the platform that they would use tomorrow. Thus lecturers have no excuse not to use e-learning. He went further to emphasis that e-learning is yet to attain its full potential since the demand for it and is still the viable alternative to classroom training by saying before the "dot-com" explosion, many analysts predicted that e-learning would rapidly become widespread and account for at least 90 percent of the bulk of corporate training. That prediction has not materialized yet but analysts are still optimistic that it is still attainable in the not too far distant future.

Feelings of Uneasiness about Using E-Learning Tools. Respondents were queried about uneasiness of e-learning tools. The study revealed that 42.2% disagree to the statement that they are uncomfortable, since e-learning will make their teaching materials and know-how open to other people; 44.5% disagreed that e-learning systems will make them lose control over the teaching and learning process; 38.3% agreed that students may be less motivated to attend lectures if all materials are on-line; 43.0% disagree that students who are not used to computers may be at a disadvantage; 50.8% strongly agreed that e-learning systems may lead to less or fewer personal contacts between lecturers and students.

Lecturers' Feeling about E-Learning Training. The researchers endeavoured to find out from respondents about their feelings about e-learning training. The survey revealed that 53.1% agreed they know what e-learning is; 41.4% disagreed that they have enough IT competency to prepare e-

learning materials; 53.9% strongly agreed that specialized instruction and guidelines concerning the development and delivery of e-learning courses should be provided; 32.8% agreed that the process of developing and delivering e-learning is clear and understandable; 36.7% were undecided over the issue of the lecturer knowing the extent of his student's computing capability before using e-learning.

Table 4: Lecturers' Confidence in E-Learning

Perception	Strongly	Agree	Undecided	Disagree	Strongly	No	Total
	Agree				Disagree	Response	
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
A LMS has a great influence upon education.	47.7	43.8	55.5	0.8	2.3	0.0	100
In the future a LMS will be a necessity for all lecturers.	50.8	40.6	7.0	0.0	0.0	1.6	100
All students have to use a LMS in the future.	64.8	21.9	8.6	1.6	0.8	2.3	100
The quality of teaching and learning is enhanced via the use of web-based tools.	63.3	32.8	1.6	0.8	0.0	1.6	100
It is convenient to have all documents (lecture notes, pictures, and Power Point presentations) for each course in the same place.	56.2	28.1	11.7	0.8	0.8	2.3	100

Table 4 displays data about the lecturers' confidence in e-learning. From Table 4, 55.5% could not tell whether or not a LMS has a great influence upon education. Meanwhile 50.8% strongly agreed that in the future, a LMS will be a necessity for all lecturers. Likewise, 64.8% strongly agreed that all students in the future will have to use a LMS. Similarly, 63.3% strongly agreed that the quality of teaching and learning is enhanced via the use of web-based tools. Finally, 56.2%

strongly agreed that it is convenient to have all documents for each e-learning course in the same place.

Table 5 depicts which tools the respondents were familiar with regards to instructional delivery.

Table 5: Familiarity with tools for instructional delivery

Response	Frequency	Percentage (%)
Microsoft PowerPoint	65	50.8
E-mail	19	14.8
Discussion Forum	2	1.6
LMS	-	-
Chat	1	0.8
Computer-Based Training (CBT)	1	0.8
Mailing List	-	-
No Response	40	31.2
Total	128	100.0

It is clear from Table 5 that 65 out of the 128 respondents (50.8%) claimed they could confidently use Microsoft Power Point for instructional delivery.

Table 6 depicts the level of willingness of lecturers to take part in an e-learning training programme

Table 6: Willingness to participate in an e-learning training programme

Response	Frequency	Percentage (%)
Yes	126	98.4
No	0	0.0
No Response	2	1.6
Total	128	100.0

126(98.4%) out of the 128 respondents were willing to participate, with no respondent at all declining emphatically.

Conclusions

Based on the analysis of the data four major themes seem to arise from the study. These are:

Firstly, 47.7% of the lecturers are using a form of technology for instructional delivery. Though the technology used is mainly Microsoft PowerPoint and Internet, it is a good sign. Most institutions that are heavily using e-learning technology via LMS went that path. Due to the insecure nature of the lecture room, Data projectors are not permanently fixed there. Thus lecturers have to carry this along. This could be the reason why some are not using this technology. To overcome this fitted Projectors can be mounted in lecture rooms that have secure features like strong burglar proof.

Secondly, most lecturers (75.8%) are aware of the existence of LMS since they have ever heard of the term. But one major concern with this awareness is what they perceived as a LMS. This is because only 2 (1.6%) could list Moodle, and blackboard as examples of LMS. Most universities engaged in e-learning/online do so via LMS. The low awareness of what constitutes LMS is also an indication of lack of experience in using the technology.

Thirdly, lecturers' access to computers and the Internet, as well as that of students, is a barrier to the effective use of an e-learning system. Coupled with this is the lack of adequate technologically enhanced classrooms and laboratories.

Fourthly, lecturers recognize e-learning as a viable form of instructional delivery and are willing to adopt this system. Majority are also ready for students to contact them through e-mail and even participate in on-line discussion forum involving their courses.

Recommendations

The study strongly recommends the following:

1. The University of Cape Coast should provide a reliable Internet connectivity and computer access to both lecturers and students. According to [14] the scarcity of opportunity to use computers is a reason why students and teachers were slow in ICT uptake.
2. Also, classrooms and laboratories should be technologically enhanced in order to support the use of e-learning. According to [15] adequate hardware, software, and media is one of the conditions for the effective use of technology.
3. There is the need to establish LMS Administrators group to support and supervise the use of Computer Centre's Moodle. This is necessary since there may be some difficulties or problems in the course of using the facility.
4. Regular training on e-learning matters should be organized for lecturers. Since finding a common time for training might be a problem for lecturers of UCC due to their enormous extra-curricular activities, off-campus teaching practice supervision, summer classes, out-of-campus examination invigilation for Institute of Education and Centre for Continuing Education, it is important to consider both online and off-line training as an innovation of e-learning teaching.

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