Availability, Accessibility and Reliability of the Internet to Graduate Students of the University of Cape Coast, Ghana

Alfred Ampah-Mensah[1], Wisdom Kwaku Agbevanu[2], and Ebenezer Narteh Atter

[1,2] *Institute for Educational Planning and Administration, University of Cape Coast, Cape Coast*

Abstract

The purpose of the study was to ascertain the availability, accessibility and reliability of the Internet to graduate students of the University of Cape Coast (UCC) to facilitate their academic work using descriptive survey design. The respondents were graduate students of UCC. The sampling techniques used were the proportionate stratified and simple random techniques. Out of a study population of 1136, a sample size of 382 was selected with a response rate of 84.5%. The reliability test result of the instrument yielded a Cronbach alpha coefficient of 0.721. The study found that Internet was availability to students at UCC and was distributed to the graduate students at vantage points on the University campus by the Computer Centre of the University. The study concluded that the graduate students were using the Internet to enhance their research-based programs on campus.

Keywords: internet access, graduate students, University of Cape Coast.

Introduction

The world has become a global village and therefore much is expected from the Universities in terms of research, innovation, knowledge dissemination and creative teaching (Oye, Lahad, & Rahim, 2012). The Internet has provided infrastructure for global economic development, helped produce a knowledge-based society, contributed to innovation and brought value to the world's economy. More importantly, the Internet has brought the world closer by accelerating the dissemination of knowledge. Also, it improves research, stimulates innovation and facilitates collaboration (Diem, 2007). According to UNESCO (2003), the Internet swiftly entered the life of humanity in the 20th century and it took mankind less than a decade to face the reality of its spreading all over the world, including Ghana.

Batinie (2013) pointed out that the Internet is an assembly of computer networks worldwide hence it has become the largest computer system that several millions of computer users can use and transfer all kinds of information be it text, numbers, pictures or sound. People around the globe are more linked to each other via the Internet than ever. Certainly, the use of the Internet is rapidly becoming inevitable, and therefore, knowledge, skills and infrastructure

for efficient Internet service delivery have become necessary for contemporary education, commerce and industry (Oye, Lahad, & Rahim, 2012). A large amount of information can be accessed at any time and any place permitting the user of the Internet global access. Internet technology offers a new way of teaching and learning in contemporary education.

Bamigboye (2011) argued that the use of the traditional library is increasingly becoming a thing of the past as most graduates are making use of cheaper and more up-to-date information materials available on the Internet. A survey conducted to assess the availability of the Internet at the University of Ibadan and the University of Lagos involving 300 respondents who were randomly selected, Bamigboye (2011) found that majority of the respondents indicated that the Internet was available at different parts of the university campus.

Similarly, Ifeoma (2012) investigated the impact of the Internet on final year graduate students at the Covenant University, Ota, Nigeria. The purpose of the study was to determine the extent of accessibility and utilisation of the Internet by final year graduate students of Covenant University. The study found that though the graduate students had access to the Internet at different locations on the University's campus, majority 79

(52.7%) preferred using the cybercafé in the media centre of the university library. Thirty-eight (25.3%) respondents preferred using the cybercafés outside the campus. While a total number of 21 (14%) students said their satisfaction comes from the campus wireless hot spots. the least number of respondents, 12 (8%) simply found it comfortable using the campus cyber cafes. In addition, (89%) respondents agreed there is 24-hour Internet connectivity at the university.

On the other hand, Bola, Olaniyi and Oyekorke (2012) looked at the accessibility and utilisation of Internet by graduate students of the University of Lagos Nigeria. The researchers used descriptive survey to determine the extent to which Internet service was accessible to staff and graduate students of the university, how point of Internet access influenced its usage, factors motivating the utilisation of Internet and what Internet was used for by the graduate students of the University of Lagos. The findings of the study show that the graduate students did not have as much access to Internet service as the staff, 27.7% and 62.4% respectively. The result of the study further revealed that 47.9% of the respondents strongly agreed they visited the cybercafé to access the Internet. Again, 53.1% and 50.2% of the respondents strongly agreed that proximity to cybercafé and valid information contained from the Internet were

their major motivating factors for surfing the Internet.

Conole (2008) surveyed ICT usage among British students. The study reveals that British students are learning in a co mplex and fast-changing environment, adopting a plethora of technological facilities to back their learning. Personal computer ownership is high among the British students and the students have become adapted to being able to, by electronic means retrieve information.

The data established that students used technologies to back all facets of their learning processes, communicate with tutors and other students, keep abreast of information about their University, find and manage educational resources, process data, and do assignments and presentations.

The issue of inadequate availability of the Internet facility at the University of Cape Coast over the years has been a worry to many students of the university in spite of the growing global demand for the use of Internet in contemporary education. Acheampong (2012) conducted a study at the University of Cape Coast to assess Internet usage by undergraduate students of the University and revealed that the limited Internet facility at the University was more tilted to administrative use than lecture halls and students' halls of residence and

hostels where students study. The extent to which this condition also prevails among graduate students of the University of Cape Coast is unknown.

Purpose of the Study
This paper, therefore, seeks to ascertain the availability, accessibility and reliability of the Internet facility to graduate students of the University to facilitate their academic work. In line with this focus, the following research questions guided the study.
1. How is the Internet available to graduate students of the University of Cape Coast?
2. How accessible and reliable is the Internet available to UCC students?

Method
Study Design
The research design used for the study was a descriptive survey. According to Babbie (2005), the major purpose of descriptive surveys is to describe situations and events. Turkson (2011) explains that descriptive research tends to look at particular events and conditions and describe them spontaneously. A descriptive survey was suitable for this study because it helped the researchers to describe the availability of the Internet for graduate students of the University of Cape Coast. Moreover, Turkson (2011) further posits that surveys are

more applicable to the large study population.

Sample

The population for this study was quite large (graduate students at the University of Cape Coast) hence there was the need for a design that could be used for large populations. Babbie (2005) also emphasized that surveys are particularly useful in describing the characteristics of a large population, hence among all research designs, the descriptive survey design was most appropriate for this study. In this regard, the population of the study comprised 1,136 graduate students of the University of Cape Coast. The proportionate stratified sampling and the simple random sampling techniques were used for the study. The sample size for the graduate students in the study was 378. Sarantakos (1998) maintains that a minimum sample size of 291 is recommended for a study population of 1,200. The total graduate students' population for this study was 1,136 hence the sample size of 378 was representative base on Sarantakos (1998) table of sample size selection. Furthermore, according to Nsowah-Nuamah (2005) in using the proportionate stratified sampling technique to select from the strata, the researcher on his own can select the sample fraction that will be used based on the number of respondents available in a stratum. The sample fraction for this study was 1/3 and was used to select the quota from the various strata of the population. The population was stratified to ensure that the major strata within graduate students of the University of Cape Coast were represented in the study. The main strata for the study were the colleges of the University namely: College of Agriculture and Natural Sciences (CANS), College of Education Studies (CES), College of Health and Allied Sciences (CHAS), College of Humanities, and Legal Studies (CHLS). The colleges were further stratified to capture male and female. PhD and master students.

The stratified sampling is suitable for this study because the study population contained essential groups as listed above that need to be fairly represented in the study. For instance, fair gender representation in the sample was necessary because there are a good number of female graduate students at the University of Cape Coast. According to Nsowah-Nuamah (2005), stratified sampling is better than purely random sampling because it lessens the probability of one-sidedness. In a simple random sampling, some strata may be excluded, over-represented, and others may be underrepresented while some may be excluded altogether. On the other hand, proportionate stratified sampling over-rules, the possibility of any essential group of the population is completely excluded in the sample.

The PhD students may be excluded and the master's students who dominated the population of graduate students may be used if the

appropriate sampling technique was not chosen in selecting the sample for this study.

Table 1

Students' Sample by College and Graduate

Colleges	Masters			Ph. D		
	Male	Female	Total	Male	Female	Total
Agriculture and Natural Science	31	11	42	7	3	10
Education Studies	81	41	122	16	4	20
Health and Allied Sciences	2	8	10	0	0	0
Humanities and Legal Studies	92	45	137	26	11	37
Total	206	105	311	49	18	67

Note: $n = 378$

Instruments, Data Collection, and Analysis

Data needed for this study were obtained using questionnaires and interview guide. Babbie (2005) explains that the use of the questionnaire offers a high level of reaching a lot of respondents. The questionnaire can be sent almost everywhere provided an efficient postal service is in place, a condition that is usually impractical for observation. The data collected through the Likert-type scale items on the questionnaire were coded using discrete numbers. The data collected were analysed using descriptive statistics. The statistical tools used to analyse this research

question were frequencies, percentages and means.

Results and Discussion

Research Question 1: How is the Internet available to graduate students of the University of Cape Coast?

This research question sought to find out how the Internet was made available to graduate students of the university. In other words, where students had access to the Internet such as the graduate hostel, halls of residence, at their departments, main library and the ICT Centre. Table 2 shows the descriptive statistics on the availability of the Internet at the

University of Cape Coast and how it was made available to the graduate students.

Table 2
Availability of Internet to Graduate Students at UCC

Items	SA		A		D		SD		M
	n	%	n	%	n	%	n	%	
Internet service at UCC	175	55.5	130	41	5	1.6	6	1.9	1.40
There are adequate Internet facilities at UCC	1	0.3	22	6.9	179	56.5	115	36.3	3.29
There is no need to upgrade Internet facilities	3	0.9	5	1.6	104	32.8	205	64.7	3.61
There is Internet service at my Department	101	31.9	135	42.6	39	12.3	42	13.2	1.46
I study the Internet at UCC	27	8.5	42	13.2	94	29.7	154	48.6	3.18
Acquired Internet skills during lectures	36	11.4	78	24.6	98	30.9	105	33.1	2.86
I use a personal laptop to access the Internet	179	56.5	88	27.8	25	7.9	24	7.6	1.38
I rely on UCC computers to access the Internet	33	10.4	46	14.5	95	30	143	45.1	3.10
I rely on home base computers for the Internet	34	10.7	57	18	99	31.2	127	40.1	2.94
UCC provides adequate support for Internet	19	6	74	23.3	130	41	94	29.7	-
Wireless facilities available on campus	85	26.8	172	54.3	38	12	22	6.9	1.85

Note: M=Mean, n=Number, %=Percentage, SA= Strongly Agree. A=Agree, D= Disagree, and SD=Strongly Disagree
Decision Rule: Mean Range 1.0 - 1.4 (Strongly Agree), 1.5 - 2.4 (Agree), 2.5 - 3.4 (Disagree), 3.5 - 4.0 (Strongly Disagree)

It can be seen from Table 2 that Internet services are available at the UCC as 55.5% and 41% of respondents respectively strongly

agreed and agreed to its availability. A mean of 1.40 was recorded (see decision rule).

This indicates that a greater number of the respondents held a stronger view of the assertion that the Internet is available at the University of Cape Coast. This is in line with the findings of Ifeoma (2012) where 89% of the respondents agreed there is 24-hour Internet connectivity at the Covenant University. Although the Internet was available to the graduate students for use at the University of Cape Coast, the majority (78.3%) of the respondents indicated that it was not available to them as a course of study.

In addition, the Internet is accessed by the graduate students at different locations of the University' campus such as, the Departments (1.46) mean, Wireless on campus (1.85), ICT Centre (1.62), the Graduate Hostel (1.93), Main Library (2.61) and at Cyber Café on campus (2.60). This result shows that Internet at the University of Cape Coast for graduate students is most available through wireless facilities on campus (81.1%), at the Departments (74.5%), and the Graduate hostel (55.6%). The respondents indicated that it was not available to them as a course of study. A study by Ifeoma (2012) also found that the Internet

was made available to graduate students at different locations of the Covenant University (Nigeria) campus. Similarly, Bamigboye (2011) also found that the Internet is available for graduate students at different locations of the University of Ibadan and the Lagos University campuses. All the items in Table 2 recorded a mean of means of 2.5. The mean of means was the average of all the means under this research question. The mean of means (2.5) falls within the decision rule 2.5–3.4. This shows the respondents generally disagreed to the statements provided on the questionnaire on the availability of the Internet at the University of Cape Coast.

Research Question 2: How accessible and reliable is the Internet available to UCC students?
This research question sought find out the extent of accessibility and reliability of the Internet available to UCC students. The results show that although the Internet is available at different locations on the university campus, it was found out that it was not accessible and reliable. This can be seen from Table 3 where the issues of the UCC providing accessible and reliable Internet had means of 3.14 and 3.29 respectively and the students' satisfaction of Internet delivery having a mean of 3.36.

Table 3
Accessibility and Reliability of Internet to Graduate Students at UCC

Items	SA		A		D		SD		M
	n	%	n	%	n	%	n	%	
There is reliable Internet service at UCC	-	-	14	4.4	197	62.1	106	33.4	3.29
Access to the Internet at the graduate hostel	55	17.4	121	38.2	77	24.3	64	20.2	1.93
Access Internet at Cyber Café	45	14.2	109	34.4	90	28.4	73	23	2.60
Access the Internet at the main library	41	12.9	117	36.9	85	26.8	74	23.3	2.61
Access Internet at ICT centre	63	19.9	136	42.9	60	18.9	58	18.3	1.62
Generally, UCC provides accessible Internet	-	-	75	23.7	121	38.2	121	38.2	3.14
Am satisfied with Internet delivery on campus	5	1.6	23	7.3	142	44.8	147	46.4	3.36

Note: M=Mean, n=Number, %=Percentage, SA= Strongly Agree, A=Agree, D= Disagree, and SD=Strongly Disagree. Decision Rule: Mean Range 1.0 - 1.4 (Strongly Agree), 1.5–2.4 (Agree), 2.5–3.4 (Disagree), 3.5–4.0 (Strongly Disagree)

As seen from Table 3, most of the means recorded fall within the decision range of 2.5–3.4, which suggests that the majority of the respondents did not agree that the Internet at the University of Cape Coast was accessible and reliable. This finding affirms the position of Bola, Olaniyi and Oyekorke (2012) whose finding revealed that graduate students did not have as much access to Internet service as compared to the staff of the University (27.7% and 62.4% respectively). On the other hand, this finding contradicts the conclusion of Chhari and Chakole (2015) that majority of the graduate medical students in India had adequate access to the Internet and were using it for both academic and personal purposes.

The feeling of the graduate students of the University of Cape Coast shows a contrary picture of what pertains among British students as observed by Conole (2008) who surveyed ICT usage among British students. Unlike graduate students of the University of Cape Coast,

Conole (2008) found that British students were more satisfied with the Internet in their universities. They were learning in a complex and fast-changing environment, adopting a plethora of technological facilities to back their learning. In the same way, Bhatti and Mohammed (2014) examined the experience of Internet utilisation by graduate students of the Nisher Medical College (Pakistan). Unlike the graduate students of the University of Cape Coast, majority (74%) of the students of the Nisher Medical College were satisfied with the Internet service on their campus.

Conclusion
In conclusion, the Internet at the University of Cape Coast is available at various locations; mostly, at the students' departments and wireless facilities on campus. It was, however, not available to the graduate students as a course of study. Although the Internet is available, its accessibility and reliability are unsatisfactory. It is therefore recommended to the University Management to procure a bigger Internet bandwidth and high capacity Internet server that can cater for the increasing students' demand for reliable internet at the University. The University should liaise with its alumni and private individuals to secure adequate funds to procure state of the art Internet equipment for the Computer Centre of the university. This will help ease

Internet traffic, improve accessibility to the Internet on campus and further contribute to achieving the University's vision of becoming a 'University of world-wide acclaimed'.

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