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STUDENT'S PERCEPTION OF INTERNET USE IN AGRICULTURAL COLLEGES IN GHANA: THE CASE OF KWADASO AGRICULTURAL COLLEGE AND UNIVERSITY OF CAPE COAST KUMASI CAMPUS

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ABSTRACT: *The objective of the study was to identify student's perceptions about constraints affecting the use of the Internet in Agriculture Colleges in Ghana and to evaluate how those constraints can be addressed to enhance their professional capacity and productivity through the use of the information technology. The target population for this study consisted of 50 General Agricultural students at Kwadaso Agricultural College and 23 Agricultural Extension students at University of Coast Cape- Kumasi campus (UCCKC). Data was collected using the descriptive methods of research. Information were collected from participants through a personal visit to the colleges. Findings indicated that students use the Internet about once a week. Most students had access to the Internet at school dormitories and through public cafes. Respondents indicated that use of the Internet was mostly for educational purposes. When compared across ages, results revealed that younger students (<40 years) use more Internet than older students (>40 years) for classroom work, preparing assignments literature review information seeking and social media. The findings were confirmed by the Analysis of Variance (ANOVA) indicating that difference in the use of Internet for these various variables was statistically significant across age group with p-value of 0.00 at 0.01 level of significance.*

KEYWORDS: ICT, Internet, Extension Agent, Agriculture Colleges

INTRODUCTION

In today's world, Internet access and connectivity has become the most powerful Information and Communication Technology (ICT) tool that the educational system can provide for its students. The Internet is an information resource which brings a wide range of materials from around the world to the user. The availability of numerous online information resources from computer files, library catalogues, databases, organizations, newsgroups, industrial, and commercial sources, as well as from individuals, makes the Internet an indispensable tool for academia and research. In promoting the use of Information and Communication Technology (ICT) in higher institutions, the role of the internet cannot be over looked. ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology-facilitated educational programs also remove many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996). The internet provides scientists, lecturers, and students, access to non-traditional sources of information worldwide. The Internet is one of the greatest and recent innovations in the world of information technology and has become a useful tool that has facilitated the process of making the world become a global village. The Internet has become an inseparable part of today's educational system. Most academic institutions largely depend on the Internet for educational purposes. A majority of academic and research institutions provide Internet service to students, teachers, and

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researchers (Kaur, 2008). The Internet is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers without regard for geographical limitation (Leiner et al., 2000; Singh, 2002).

LITERATURE REVIEW

According to Igun (2005), academic institutions cannot do without Internet services especially in this era of information globalization, and exploration. Research has showed that Internet connectivity enhances teaching, studying, research, publishing and communication (Adomi, Omodeko & Otolo, 2004). Several studies have been reported in literature on academic use of the Internet by students. George et al. (2006) reported the results of a study by graduate students at Carnegie Mellon University in the United States of America. The result showed that information search at the university was basically through Internet and Intranet facilities. The students generally conducted Google search (73%), found web pages (68%), journals (50%), citation chaining (48%), and other general searching (47%). Several other studies showed that academic use of the Internet by university students is increasing. According to Ibegwam (2004), students' use of the Internet will improve if institutions put in place training on the use of Internet, provide free Internet services, improve connectivity and increase workstations connected to the Internet. Bao (1998) observed that very little training is given to students in the use of Internet facilities and where Internet does exists in an institution very little time allocation is made for students' use of the Internet. According to Chifewepa (2003), lack of guidance, inability of Internet use, and inadequate Internet facilities are problems facing student use of the Internet. Badu and Markwei (2005) studied the use of the Internet and its resources by academic staff and postgraduate students at the University of Ghana. Their findings showed that academic staff and postgraduate students were fully aware of the Internet and most of its services. It was also found that academic staff used the Internet more than postgraduate students. Apart from e-mail, the frequency of using the Internet resources was very low. Staff and students indicated that they need training for an effective use of the Internet (Badu and Markwei, 2005). According to Pelgrum (2001), obstacles for ICT implementation in schools and colleges include; insufficient number of computers, teachers' lack of ICT knowledge/skills, difficulty in integrating ICT into instruction, scheduling computer time, insufficient peripherals, not enough copies of software, insufficient teacher time, not enough simultaneous access, and not enough supervision staff and lack of technical assistance. Similarly, Lewis and Smith (2002) summarized these barriers as: Limited equipment, inadequate skills, minimal support, and time constraints and the teacher's own lack of interest or knowledge about computer. The Internet allows cost-effective information delivery services and collaborative and distance education (Clyde, 1995; Todd, 1997).

MATERIALS AND METHODS

The study used a survey research method where qualitative research design was used. The method of data collection was a written/questionnaire, that is often used as a self-reporting instrument. The questionnaire consisted of a total of twenty-three items. Twenty-one items consisted of structured forced-choice responses, of which two questions allowed for written comment. One question required a fill-in- the-blank response. The questionnaire was distributed to participants and collected in a class room environment during a visit by the

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investigator to the institution. Agricultural college students were used in this research because they are the human resource that provides extension service under the Human Resource & Development wing of Ministry of Food Agriculture after they graduate from college

On February 12, 2013, the cover letter and a survey were distributed to 73 identified students in a classroom setting. The researcher allowed the students to settle down in their classroom and the survey was then handed to each student taking part in the research. Students were instructed to read the cover letter carefully and to voluntarily complete the survey if they met the minimum criteria of being graduating seniors**.** Respondents were given ample time (about 30 minutes) to complete the questionnaire. Questionnaires were then collected immediately after completion. A total of 73 questionnaires were collected representing a response rate of 100%. University of Maryland Eastern Shore Institutional Review Board policies were followed.

RESULTS

Demographic Characteristics of the Students at the Colleges

Table 1 below depicts gender, age, marital status and major of KCA and UCCKC respondents. Table 1 shows that the majority of the respondents (96%) at KAC were males and 4% were females. All KAC respondents were General Agriculture majors. The respondents were also categorized by age and marital status. Eight-two percent of respondents were 25 years old and under, 18% were between 26-40 years old. None of KAC respondents were between 41-55years old or 56 or older. For marital status, the table shows that only four males were married and two were separated. No female responded were married, divorced or separated. For UCCKC respondents, the data indicates that 87% were males while 13% were females. All UCCKC respondents were Agriculture Extension majors. None of the respondent were between the ages of 25 or under or 56 or older. Thirty-nine percent of the respondents were between the ages of 26-40, and 61% were between the ages of 41- 55. Of the 23 respondents, 21 males were married and two females were married.

Table 1. Demographic Characteristics of KAC &UCCKC respondents

Variable	KAC		UCCKC	
	Frequency	%	Frequency	%
Gender				
Male	48	96	20	87
Female	2	4	3	13
Age				
25 or under	41	82	0	0
26-40	9	18	9	39
41-55	0	0	14	61
56 or older	0	0	0	0
Marital status				
Married	4	8	21	91
Single	46	92	2	9
Academic major				
Agric. Ext.	0	0	23	100
Gen. Agric.	50	100	0	0

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EXPLORING THE PURPOSE OF INTERNET USE AMONG KAC AND UCCKC STUDENTS

Table 2 below describes participants' response of the purpose why students use the internet. Ten possible purposes of Internet use variables were rated on agreements by students. For each influence, the students were given the choice of "Very Often", "Often", "Somewhat Often", "Not Often", and "Never". The responses were converted to a five-point scale where "very often" was five and "never "received a score of one. The mean for each variable are reported in Table 7. Among the ten variables the students rated, the four variables with highest mean scores were: preparing assignments KAC (3.9), UCCKC (3.65), Browsing for information such as News and Sports KAC (3.42), UCCKC (3.65), School work KAC(3.56), UCCKC (3.39), Literature review KAC (3.14) UCCKC (3.04) The variable with the lowest mean score was buying textbooks & other educational materials KAC(1.4), UCCKC(1.13)

Table 2. Response of participants Purpose of Internet Use

Purpose of internet use	*Mean*	
	KAC	UCCKC
Distant Learning	2.06	1.52
School work	3.56	3.39
Browsing for information such as News and Sports	3.42	3.65
Communication e.g. e-mails	2.56	2.39
Social media (e.g. Face book, you tube)	3.12	2.47
Playing computer games and watching movies	2.28	2.30
Buying textbooks & other educational materials	1.4	1.13
Job seeking	1.58	1.21
Literature review	3.14	3.04
Preparing assignment	3.9	3.65

Note: *The mean represents the average of the responses given by students ranking each influences on a 5-point scale in which 5=Very Often, 4= Often, 3=Somewhat Often, 2=Not Often, 1=Never*

Table 3. Gender Difference in the Use of Internet for Selected Variables

gender	**Classroom work**		**Preparing assignment**		**Literature review**		**Information seeking**		**Social media**	
	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC
Female	4.5	3.67	2.5	3.32	2.0	2.67	4.0	1.0	4.0	2.0
Male	3.52	3.20	3.87	3.43	3.06	3.05	3.48	2.37	3.25	2.41
Overall score	3.56	3.39	2.5	3.65	3.14	3.04	3.42	3.65	3.12	2.47

Results presented in Table 3 represent the mean scores by gender for selected use of Internet variables. Evidence from the study revealed that females (KAC=4.5 and UCCKC=3.67) used the internet more for classroom work than their male counterparts (KAC=3.52 and UCCKC=3.20)

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Table 4. Age Difference in the Use of Internet for Selected Variables

Age	Classroom work		Preparing assignment		Literature review		Information seeking		Social media	
	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC	KAC	UCCKC
25 or under	3.48	0.00	3.83	0.00	3.09	0.00	3.57	0.00	3.26	0.00
26-40	4.0	3.67	3.75	2.88	2.63	3.0	3.13	3.44	3.37	2.22
41-55	0.00	3.00	0.00	2.81	0.00	3.0	0.00	3.63	0.00	2.09

When compared across ages, results revealed that younger students (<40 years) use more Internet than older students (>40 years) for classroom work, preparing assignments literature review information seeking and social media. The findings were confirmed by the Analysis of Variance (ANOVA) indicating that difference in the use of Internet for these various variables was statistically significant across age group with p-value of 0.00 at 0.01 level of significance.

CONSTRAINTS LIMITING THE USE OF INTERNET IN AGRICULTURE COLLEGES

Table 5. Constraints to the Use of Internet

Constraints	*KAC*			*UCCKC*		
	Agree (%)	Disagree (%)	Neutral (%)	Agree (%)	Disagree (%)	Neutral (%)
Insufficient number of computer	92	0	8	91	4	5
Teachers' lack of ICT knowledge/skills	36	52	12	13	65	22
Difficult to integrate ICT to instruction	56	44	0	39	35	26
Scheduling computer time	60	20	20	61	26	13
Insufficient peripherals	70	8	22	83	13	4
Not enough supervision staff	60	22	18	48	35	17
Lack of technical assistance	70	14	16	65	30	5
Non- inclusion of ICT programs in college's curricula	40	52	8	35	48	17
Slow speed of server	90	6	4	65	17	18
Power failure	84	6	10	91	7	2
Attitude of library staff	26	44	30	22	39	39
Time constraints	66	14	20	57	30	13

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KAC=50, UCCKC=23

Note: 5= strongly agree, 4= agree, 3=neutral, 2=disagree, 1= strongly disagree

An attempt was made to explore the problems faced by students in both colleges about Internet use. The majority of KAC (64%) and UCCKC (48%) respondents reported that a major constraint affecting Internet usage in the colleges was unstable power supply. In addition, inadequate number of computers, time constraints, and limited access to the Internet on campus were some of the problems that respondent were more concerned about.

SUGGESTED SOLUTIONS BY STUDENTS TO INTERNET USE CONSTRAINTS

The following are suggestions students made to help solve the problems associated with Internet use in their colleges.

i. Provision routers with wider coverage should be provided
ii. Provision of alternative source of energy should be available
iii. College's computer lab should be connected to the internet
iv. Provision more computers provided in the college's computer lab
v. Internet service should be available everywhere on campus
vi. Time period given to student to use the internet during school hours
vii. Teaching of ICT and internet use should be taught for the three-year course period
viii. Employ ICT/ internet experts to help students
ix. Government to support in providing ICT infrastructure
x. Education about the importance of using internet
xi. Proper use of the internet by student
xii. In-service ICT training for instructors to also benefit students
xiii. Practical Internet/ICT training instead of theory
xiv. Computer lab should be accessible after school hours
xv. Making internet code accessible to all student
xvi. Discounts given to students on ICT facilities

RECOMMENDATIONS

Based on the findings of this study, it is recommended that the College of Agriculture at the University Cape Coast Kumasi Campus and Kwadaso Agriculture College increase students accessibility to the Internet through additional on- campus computer laboratories and dialup access services for students' dormitories and other areas on campus; taking into consideration that the majority of the respondents make use of the Internet facilities themselves using modems in their dormitories or public cafes. It is also recommend that faculty members in both Colleges develop and use instructional strategies that require agriculture students to use the Internet for academic purposes. In this study, the major constraint that respondents reported was the issue of power supply. It is recommended that colleges put forth efforts to concentrate more on renewable energy sources since it is relatively cheap and sustainable The government should support and encourage the private sector as well as Internet Service Providers to invest in communication and information technologies such as fiber-optic technologies that have the potential to make access to the Internet cheaper for educational purposes. The Ghana

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government has vowed to vigorously promote access to information through the use of the Internet in all segments of society, particularly in our educational system, to help close the resource gap. In his 1997 budget statement, the Minister of Finance made the following declaration: "In view of the positive effects of the application of information technology on development, government will ensure that key institutions of state machinery are linked to the Internet. All the science resource centers will be connected to the network as and when they are commissioned. The program to link the universities together and to the Internet will also be pursued." Agricultural colleges should remind government agencies about their commitment to ensure Internet accessibility in educational institution.

REFERENCES

Adomi, E. E., Omodeko, F.S.,Otolo, P. U. (2004). The use of cybercafes at Delta state university, Abraka, Nigeria. *Library Hi Tech.* 22(4): 383-388.

Badu, E. E., & Markwei, E. D. (2005). Internet awareness and use in the University of Ghana. *AGE Journal Online*, 21(4): 260-268.

Bao, X. (1998). Challenges and Opportunities: A report of the 1998 Library Survey of Internet Users of Seton Hall University. *College and Research Libraries* 59(6): 535-543.

Chifwepa V. (2003). The Use of the Internet by Teaching Staff of University of Zambia *African Journal of Library Archives and Information Studies*, 13(2): 119-132

Clyde, A. (1995). Computers in school libraries: The Internet and Australian schools.

Deloughry, T. J. (1996). New School for Social Research Bolsters Flagging .Enrollment with 90
On-line Courses. *Chronicle of Higher Education*, 43(4): 27-28.

Ibegwam, A (2004). Internet Access and Usage by Students of the College of Medicine, University of Lagos. *The Information Technologist* 1(1 & 2): 81-87

Igun, S. E. (2005). Implications for electronic publishing in Libraries and Information Centres in Africa.*The Electronic Library*, 23(1,): 86.

Kaur, A. (2008) Internet use for entertainment and information. Retrieved August 24, 2008, from http://www.zonalatina.com/Z1data129.htm

Leiner, B. M, Cerf V.G., Clark, D, .D. (2000) .A brief history of the Internet Retrieved June,from http://ww.isoc.org/internet

Lewis, B. & Smith R. (2002). The development of an electronic education portfolio:
An outline for medical education professional. *Teaching and Learning in Medicine*, 19(2):139-147.

Moore, M. & Kearsley, G. (1996). Distance Education: A Systems View. Belmont, CA: Wadsworth

Pelgrum, W. J. (2001). Obstacles to the integration of ICT in education: Results from a Worldwide educational assessment. *Computer & Education, 37:* 163-178.

Singh, A. M. (2002). The Internet strategy for optimum utilization in South Africa. February, 2011from://www.sajim.co.za/index.php/SAJIM/article/viewFile/152/149

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