

A study on the use of the Internet in Senior High Schools in the
Cape Coast Metropolis of Ghana.

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Abstract

The purpose of the study was to investigate the utilization of the Internet in senior high schools in the Cape Coast Metropolis in the Central Region of Ghana. The sample consisted of 100 students and 25 teachers in three Senior High Schools. The stratified random sampling technique was used to select the three schools to represent the school types (co-ed, girls, boys, schools) with one school in each stratum, respectively. For each stratum, respondents were selected using the simple random technique. Structured questionnaires consisting of closed items were used to collect the data from the sample. Three sets of questionnaires were designed and administered to the three groups of respondents; teachers, students and administrators. Descriptive statistical method was employed concurrently to analyze the data using Statistical Package for Social Sciences (SPSS) software.

The major findings of the study include the following:

1. A greater percentage of the students have access to the internet at school, but the majority of students with access to the Internet hardly use it.
2. Majority of teachers have access to the Internet in their schools but hardly use it. The few who use it do that mainly for their personal development.
3. A majority of schools are undecided on having ICT budget while a majority of schools have ICT policy but do not have a budget to implement it.

From the findings, some recommendations we have advanced to enhance the use of the Internet in senior high schools. These include:

1. the need for ICT departments to introduce browsing sessions in their computer laboratories for students while taking steps to monitor usage to ensure that students use the Internet for educational and prevent possible internet abuse.

2. teachers should be given ICT training to enhance their knowledge in the use of the Internet and school administrators should prepare budgets for ICT implementation.

Background to the study

The application of Information and Communication Technology (ICT) in schools is perceived as a means for transforming the teaching and learning process, and has thus been met with significant enthusiasm in the developed world (Abbott, 2004). The developing world also perceives ICT as a tool that will promote socioeconomic, political, and sustainable development. This perception underpins the introduction of computers and internet usage in senior high schools in Ghana.

Conscious efforts are being made by the Ghanaian government to spread the use of information technology. For instance, in relation to human resource development, Abdulai (2003) in a public forum at the University of Development Studies stated that ICT have been introduced in the nation's educational system from the basic level to the tertiary level. This was to facilitate creativity in the areas of art and technical disciplines, encouraging children to build gadgets from their imagination based on local ideas and technologies that could be developed to benefit our unique situation.

At the individual perception level, Turkson *et al* (2007) observe that there have been many studies into the views of people on the effect of the internet in various aspects of national development. Turkson *et al* (2007) also conducted a study with regards to the effect of the internet on the youth. Their study provided information about how the different age groups of the youth use the internet, the type of resources the youth prefer most on the internet and suggested ways by which policy makers could solve the negative impact if any of the effect of the internet on the youth. However, the research failed to

make recommendations on how the internet should be used for educational purposes hence the need for our study.

One problem with the implementation of ICT in senior high schools is that, it is skewed in favour of schools categorized as premier schools and schools in urban areas. Also, at the basic level, it is skewed in favour of schools categorized as private schools. At this juncture, it is critical that policy makers ensure that ICT does not become another tool for perpetuating educational inequalities considering the fact that presently not all educational institutions in Ghana have access to ICT facilities.

Furthermore, in 2003, Dakubu, in a public forum at the University of Ghana stated that ICTs should be introduced into basic schools. To him, education must start from the grass root level and computer studies should be a pre-requisite for gaining admission to the universities. He further asserted that computer literacy in colleges of education should be considered as a way of building a sound human resource base to start ICT programmes in the primary and senior high schools. Though Dakubu's ideas are commendable, the big question is how realistic it will be considering the fact that even the developed countries have not fully achieved this. By 2007, the use of ICT in senior high schools will soon be a policy mandate in the Ghanaian education system. The government has made the promise to extend computers and internet service to every senior high school in the nation. The Ministry of Education has developed a curriculum for ICT training in senior high schools in the nation making ICT a core and elective subject in the West Africa Senior Secondary School Certificate Examination. These developments at the policy levels show that by 2010 ICT will become a tool for accessing students' ability and determining their fitness for transition to post- secondary education and employment (Mfum- Mensah, 2003).

Additionally, the Ghana ICT for Accelerated Development Policy (ICT4AD, 2003) by the Ministry of Trade and Industry and presidential special initiatives, (MOTI/PSI) has stated that “policy efforts shall be directed at using ICTs to facilitate education and learning within the educational system and to promote e-learning and e-education as well as life-long learning within the population at large” this was in recognition of the benefits of Information technology as one of the effective ways to improve the productivity and efficiency of a nation. The internet provides for students and teachers a wide range of resources to upgrade their knowledge in their subject areas. The inclusion of information communication technology (ICT) in the new Educational Reforms (2007) could not have come at a better time than this ‘information age’. It is therefore essential that an investigation of the use of the internet in senior high schools in Ghana be carried out.

The conscious efforts made by the government to implement the use of the internet in senior high school education in Ghana include the introduction of the internet as part of the ICT syllabus of the new Educational Reforms (ICT syllabus, 2007) is commendable and timely. However, contrary to the promising notion of ICT and for that matter the internet as a means of knowledge production, numerous scholars have highlighted the need to address the numerous problems that its introduction will bring. These issues include; lack of adequate planning for implementation of ICT (Mooij and Smeets, 2001); inadequate teachers training (Webb, 2002); lack of information regarding the distribution of ICT; low levels of literacy in general, and lack of relevant content and technology applications to meet the needs of diverse societies (ETS, 2001; Hakkarainen *et al*, 2000).

A study conducted by Turkson *et al* (2007), indicated that the use of the internet was becoming more popular among the youth in the Ghanaian society. The study found out that, though the internet was popular among the youth, it was mostly used negatively for

activities such as internet theft, pornography and hacking. They also discovered the internet was used for electronic mailing and chatting. From the foregoing discussion, it is clear that the internet is used for educational purposes at a very minimal level.

Statement of the problem

There have been a number of studies on internet usage in Ghana (Turkson *et al* (2007), Abdallah, 2003). However, there has been a minimal examination of the relevant issues in the educational settings in Ghana, for instance the Turkson *et al* research was limited to Agona Swedru in the Central Region of Ghana and its surrounding towns. In the light of this, we sought to carry out the research: “An investigation of the use of the Internet in Senior High Schools in the Cape Coast Metropolis of Ghana.”

Purpose of study

The purpose of this study was to investigate the use of the Internet in Senior High Schools by students and teachers in the Cape Coast Metropolis of Ghana. The study sought to;

1. determine how students used the internet to search for information with regards to their studies ;
2. identify how teachers used the resources that are available on the internet to plan, prepare, deliver and assess their lessons;
3. examine how the various opportunities that are available on the internet such as on-line libraries, subject –area fora and educational websites were used by school administrators for school administration; and to investigate how school administrators recognized the need to provide computer resources with internet connectivity in their schools.

Research questions

The following research questions were formulated to guide the study:

1. how do students in senior high schools use the internet in their learning?
2. Are the plans put in place by administrators to implement ICTs in their schools effective?
3. how can administrators to implement ICTs in their schools?

METHODOLOGY

Research design

Survey method was used in this research as it was considered relatively inexpensive, easily administered, replicable, and a large amount of data could be got from a lot of people in a fairly short time. Keegan (2006) states that survey method of research asks a representative sample of people oral or written questions to find out about their attitudes, behaviors, beliefs, opinions, and values on the issue.

The questionnaires were well designed and given to a representative sample, which allowed us to assess the suitability as a data gathering tool for the larger for the study. The pretesting revealed that a question was ambiguous and had to be re-worded to give a clear indication of required data. Again, the 40 questions were reduced to 35 because 5 questions were determined to give very little information to answer research questions

Population

The population of the study consisted of the 10 government assisted senior high schools in the Cape Coast Metropolis. The schools included St. Augustine's College, Mfantshipim School, Wesley Girls High School, Holy Child Girls' School, Adisadel College, Ghana National College, Academy of Christ The King, Oguaa Secondary Technical School and Aggrey Memorial AME Zion Secondary School.

Accessible Population

The accessible population was made up of 1353 students, 77 teachers and 3 administrators in Ghana National College, 1220 students, 81 teachers and 3 administrators in Wesley Girls' Senior High school and finally, in St. Augustine's College, 1251 students, 79 teachers and 3 administrators.

The Cape Coast Metropolis was chosen because it boasts of Ghana's finest "ivy league" secondary schools including Wesley Girls' High School, St. Augustine's College, Mfantsipim School, Adisadel College, Ghana National College, Holy Child Secondary School, and many more. This metropolis is also recognized nationwide as the focal point of Ghana's secondary education. According to Quist (2003), Cape Coast since the colonial era has been the hub of secondary education in Ghana, priding itself on being the custodian of some of the best and most prestigious schools and has since attracted the cream of primary school graduates. Hence, three senior high schools in the Cape Coast metropolis were selected for this research.

The Sample

Since the researchers could not visit all the schools in the metropolis, three schools were chosen. Stratified random sampling was used to select the school where, each of the school types (co-ed, male school, female schools) was treated as a stratum from which simple random sampling was used to select the schools. The schools were: Wesley Girls' High School for the girls' school, St. Augustine's College, the boys' school and Ghana National College co – educational school in the Cape Coast metropolis. Statistically, the larger the sample, the more precisely it reflects the target group,

Research Instruments

Structured questionnaires consisting of closed ended items were used to obtain data for the study. They were developed and validated among students in a pilot study. The questionnaires were made up of three sets; the first set of questionnaire titled “Students’ Views on the Use of the Internet in Learning” (QSVIL) was given to students, another titled “Teachers’ Views on the Use of the Internet in Teaching” (QTVIL) was administered to teachers and the third, titled “Administrators View on the Use of the Internet in Teaching and Learning.” (QAVIL) was given to administrators.

Each of the questionnaires consisted of two parts. Section 1 elicited Biodata of the respondents. Section 2 was made up of 5 sets of questions and collected information on students’ access and frequency of use of the internet. Section 2 was to determine how many students had access to the internet, how often they used it, and what purpose they used it for. The questionnaire were of the 5-point Likert-scale type and respondents had to choose from Very Frequently, Frequently, Occasionally, Rarely and Very Rarely in some sections and for purpose had to select: Very Often (everyday), Often (twice or more a week), Sometimes (a few times a month), Rarely (once in several months) and Not at all.

Data collection procedure

The team sought permission from the school heads and with the help of trained research assistants, the questionnaires were distributed to respondents in the various study schools. The questionnaires were given to 100 students, 25 teachers and 3 administrators to complete and were retrieved within three days starting from the day they were distributed.

Data Analysis

Descriptive statistical method was employed to analyze the data using Statistical Package for Social Sciences (SPSS) software. The data was analyzed using frequency and percentage distributions.

Results and Discussion

Table 1

Distribution of Students' and Teachers' Access to the Internet

Access to Internet	Yes		No	
	No.	%	No	%
Teachers	24	96.0	1	4.0
Students	70	70.0	30	30.0

Table 1, indicates that 24 teachers had access to the internet while 1 did not have access to the internet. This implied that the majority of teachers in senior high schools had access to the internet. Seventy of the students had access to the internet as against 30 which do not have access. Thus a majority of students had access to the internet. This finding is supported by the findings of Parthemore (2003). In reporting his research, he indicated that many senior high schools in Ghana could boast of computer laboratories through which students could gain basic computer literacy. Tables 2 and 3 display the distribution of responses to research question one: how do students in senior high schools use the internet in their learning?

Frequency of use of the internet by students and teachers

Table 2

Distribution of Frequency of Use of the Internet by Students and Teachers

	Very		Frequently		Occasionally		Rarely		Very Rarely	
	Frequently									
Frequency of use	No.	%	No.	%	No.	%	No.	%	No.	%
Teachers	1	4.0	2	8.0	9	36.0	1	4.0	12	48.0
Students	3	3.0	18	18.0	22	22.0	16	16.0	41	41.0

Even though a higher percentage of both teachers and students in senior high schools had access to the internet as indicated in Table 2 majority of them hardly used the internet.

Only a few frequently used it. This means that despite the fact that both students and teachers had access to the internet, its resources were not being fully harnessed. Students' use of the internet refers to how and what students used the internet for in senior high schools. The various uses of the internet in senior high schools as well as how often students used it for each of reported purpose is summarized in Table 3 below.

Students' use of the internet

Table 3

Distribution of students' use of the internet

Purpose	Very Often		Often		Sometimes		Rarely		Not at all	
	No.	%	No.	%	No.	%	No.	%	No.	%
For practice	4	4.0	16	16.0	23	23.0	18	18.0	39	39.0
Visit on–line libraries	5	1.0	7	7.0	14	14.0	13	13.0	65	65.0
Accessing information	5	5.0	9	9.0	18	18.0	29	29.0	39	39.0
Exchanging information	8	8.0	9	9.0	17	17.0	17	17.0	49	49.0
Join discussion groups	6	6.0	7	7.0	14	14.0	11	11.0	62	62.0

Table 3 shows that a higher percentage of students did not use the internet for reinforcing what they learnt in class, visiting online libraries, exchanging information with other students, accessing information to do their assignments and joining discussion groups. Table 2 also shows that the few students who used the internet very often used it for exchanging information with their peers and joining discussion groups. This observation confirms the finding from the Turkson *et al* (2007) study that the internet was popular among the youth. However, while their finding further indicated that the internet was mostly used for non – academic activities such as internet theft, pornography and hacking, a small number of respondents used it more constructively often using the internet to practice what they learnt in school.

Research Question 2: To what extent are the plans put in place by administrators to implement ICTs in their schools effective?

Table 4

Distribution of Teacher use of the Internet by Frequency and Purpose

Purpose	Very Often		Often		Seldom		Never	
	No.	%	No.	%	No.	%	No.	%
Aiding teaching	2	8.0	4	16.0	8	32.0	11	44.0
Teaching Computer Skills	1	4.0	1	4.0	3	12.0	20	80.0
Finding Information	4	4.0	3	12.0	8	32.0	10	40.0
Making presentations	-	-	6	24.0	7	28.0	12	48.0
Preparing Lessons	1	4.0	6	24.0	8	32.0	10	40.0
Communicating with students	1	4.0	3	12.0	21	84.0	21	84.0
Communicating with other teachers	1	4.0	7	28.0	5	20.0	12	48.0
Monitoring Students progress	2	8.0	-	-	2	8.0	21	84.0
Preparing reports	1	4.0	3	12.0	4	6.0	17	86.0
Personal Development	8	32.0	6	24.0	5	20.0	6	24.0

Table 1 illustrates that majority of teachers did have access to the internet but hardly used it. For the few who used it, very often used it for personal development. 28.0% often used it for communicating with other teachers and making lesson presentations.

Research question 3: How can administrators implement ICTs in their schools?

Mode of implementation of ICT policy

Table 5 outlines how ICT is implemented in senior high schools

Table 5

Distribution of Implementation mode of ICT

Implementation of ICT Policy	Frequency	Percentage (%)
Offering Separate Courses	3	100.0
By using internet in teaching specific subjects	1	33.3
By using internet in School management and administration	-	-
By training teachers on the use of the internet	-	-

Although the Ministry of Education has not established a clear framework for the implementation of ICT in schools as stated by Mfum–Mensah (2003) in the reviewed literature, all the 3 schools that took part in the survey implemented national ICT policy by offering separate computer courses. However, only one school used the internet in teaching specific subjects as indicated in Table 5. This implies that the most preferable mode of implementation of ICT policy in the study schools was by offering separate computer courses.

Conclusion

A greater percentage of students sampled had access to the internet in senior high schools. The majority of students with access to the internet hardly used it and the few who used the internet mostly used it to exchange information with other students about their personal life. Majority of teachers had access to the internet in their schools but

unfortunately, they hardly used it because of lack of technical know-how. The few who used it mostly used it for their personal development. A majority of schools had ICT policies while a majority of schools were undecided on having ICT budgets to support the implementation of ICT. The main mode of implementation of ICT policy in schools was by offering separate computer courses with a third of the schools using the internet in teaching specific subjects such as ICT, mathematics, geography etc.

Recommendations

There is the need for ICT departments in senior high schools to introduce browsing sessions in their computer laboratories for students. Steps should be taken to ensure that students used the internet for educational purposes by monitoring them. Teachers should be given ICT training to enhance their knowledge and skills in the use of the internet. School administrators should prepare budgets to support ICT implementation policies.

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