

The Impact of Internet Usage on Students' Success in Selected Senior High Schools in Cape Coast metropolis, Ghana

Kwaku Darko Amponsah (PhD)

University of Ghana, Legon, Accra, Ghana

Godwin Kwame Aboagye (PhD)

University of Cape Coast, Cape Coast, Ghana

Millicent Narh-Kert (MPhil)

University of Ghana, Legon, Accra, Ghana

Priscilla Commey-Mintah (PhD)

University of Ghana, Legon, Accra, Ghana

Fred Kofi Boateng (PhD)

University of Ghana, Legon, Accra, Ghana

Doi:10.19044/ejes.v9no2a1

[URL:http://dx.doi.org/10.19044/ejes.v9no2a1](http://dx.doi.org/10.19044/ejes.v9no2a1)

Submitted: 15 August 2021

Accepted: 21 March 2022

Published: 30 June 2022

Copyright 2021 Author(s)

Under Creative Commons BY-NC-ND

4.0 OPEN ACCES

Abstract:

This Study explored the usage of the internet and its impact on the academic performance of Senior High School (SHS) students in the Cape Coast Metropolis. A questionnaire was used to gather data from 105 second-and third-year students through random sampling and was then analyzed using descriptive statistics and an independent samples t-test. The result revealed that Internet outlets for SHS students include school ICT labs, mobile phones, internet facilities for families, and public internet cafes. Furthermore, internet access influences academic standards among students, as those with internet access have shown a higher improvement in academic performance than those without. Different internet use, on the other hand, has no impact on academic performance, as revealed by the results. Similarly, the presence of several sources of internet connectivity does not guarantee immediate access to all of them. Therefore, it was recommended that the Heads of Institutions should liaise with other stakeholders to provide internet facilities with management support. It was also recommended that to support student research, the School ICT Laboratories should be well equipped with internet facilities and students should be taught how to use search engines to search online for academic materials. This is vital because the provision of school internet facilities plays a very important role in enhancing academic performance.

Key Words: Information and communication technology, internet usage, senior high school students, student success

Introduction:

In several fields worldwide, information and communication technology (ICT) has been a vehicle for creativity and quality academic enhancement. From both outside and within the classroom in the education sector, ICT has been an integral part of the teaching and learning process for high school students. The internet is a worldwide network system that connects a diverse set of commercial, public, business, academic, and government networks to enable global communication and access to data resources. The terms “Internet” and “World Wide Web” are frequently used interchangeably, although they are not synonymous; whilst the internet refers to the worldwide communication system, which includes hardware and infrastructure, the web is just one of the services provided through the internet (Techopedia, 2020). Internet usage explains the use of the world wide web to enhance academic work. The internet is the most important information and communication technology that has caused a global shift in information quality (Siraj, Salam, Hasan, Jin, Roslan, & Othman, 2015; Yebowaah, 2018). Siraj et al. (2015) identified the Internet as the primary information and communication technology that has led to a quality shift in the global information situation.

Similarly, because of its capacity to act as a support medium for several functions, the internet is a knowledge pool that offers an atmosphere in which millions of people communicate and participate in creating and sharing information (Rose & Fernlund, 1997). In the mid-1990s, educational institutions were introduced to the Internet as a medium to promote students' educational journeys (Ngoumandjoka, 2012). As a result, internet connectivity has vastly improved in recent decades and is now available in households, offices, travel, and classrooms (Ellore, Niranjana, & Brown, 2014). Research evidence (Adedotun, 2015; Akande & Bamise, 2017) shows that students' academic success is influenced by access to information. Mbongo, Hako, and Munangatire (2021) found out that the benefits of using online teaching and learning include flexibility, teaching large classes, increased interaction and engagement between lecturers and students, and the internet helps to make that possible.

Reliable internet sources for academic research are more relevant, particularly in high-school courses that demand a scholarly overview of publications (Sahin, Balta, & Ercan, 2010). According to Kim (2011), the fulcrum of teenage educational achievement is using the internet for academic reasons. Internet networking is now almost ubiquitous; for example, many learners have internet access on their cell phones (Ellore et al., 2014). As a result, learners can broaden their academic knowledge, research, and tasks by gaining access to global information and maintaining efficient communication in the world of academia (Siraj et al., 2015). According to Yesilyurt, Basturk, and Kara (2014), having a home computer and internet connectivity is just as critical for learners' success in academia as having self-learning skills. Olatokun (2008) suggests that many learners in Nigeria's high schools believe that the internet is better and more convenient than their school libraries when it comes to internet access and use. The students viewed the internet as a database of general information, which helped improve their reading behaviours and school success. As a result, the Internet is often used as an online learning resource, which has helped students improve their academic outcomes (Siraj et al., 2015). High school (Craver, 1987) and university students in Ghana (Ameyaw & Asante, 2016; Yebowaah, 2018) regard the library as a conducive atmosphere for learning and a source of appropriate and practical place to search for information. However, they would instead use the internet rather than go to the library since it often provides readily available materials.

Availability of internet services is critical for Ghana (Ameyaw & Asante, 2016) as Ghana is very ready for implementation of Education 4.0 (Narh-Kert, Osei & Oteng, 2022) and this is

because, research has shown that, easy internet searching, novel, and current knowledge have contributed to students' scholastic achievements (Kumah, 2015). Moreover, students' understanding of the importance of the world grows due to their use of the internet (Ogedebe, 2012). Thus, recent studies have linked regular internet use to higher student academic achievement (Mami & Hatami-Zad, 2014; Torres-Diaz et al., 2016; Carter, 2016; Sampath Kumar & Manjunath, 2013). In the metropolis of Cape Coast, however, research on the impact of internet usage on student success is minimal. Consequently, the emphasis of this study is on the effect of internet usage on student success in selected senior high schools in the Cape Coast metropolis of Ghana.

LITERATURE REVIEW

Internet Use

The use of the internet draws users' eyes to the world's vastness around them. The internet gathers various types of data that college students and senior high school students use (Akin-Adaeamola, 2014; Yebowaah, 2018). Internet use will continue to grow if users are no longer denied accessibility (Olatokun, 2008). People's ability to access data sites such as social networking sites, online sports, and cybersex, according to recent data, is made possible by the internet (Yebowaah, 2018). Most students have internet access on their mobile phones because of the internet accessibility, according to research conducted by Ellore et al. (2014) on the effect of internet use on academic success and face-to-face conversation. Students will expand their intellectual horizons due to this (Akin-Adaeamola, 2014; Yebowaah, 2018). Laptop use and online resource accessibility are crucial for learners (Akande & Bamise, 2017).

According to Yesilyurt et al. (2014), possessing a computer at home with internet connectivity is just as critical for learners' academic performance as having self-learning skills. Olatokun (2008) found that most learners felt the internet was much better and more accessible than their school libraries, based on their accessibility and use of the internet by senior high school students in Nigeria. According to the Study, learners see the internet as a source of general knowledge. It aids in developing their reading habits, which leads to their better academic performance. According to Akin-Adaeamola (2014) and Siraj et al. (2015), students regard the internet as a supplementary information source, leading to higher academic performance. According to Ogedebe, most students (2012) get relevant information, such as educational materials, get relevant information from the internet. This indicates that students are using the internet to improve their academic performance. Sahin et al. (2010) used university students to investigate internet outlets and argued that reliable internet resources are critical for academic Study, especially in higher-level guides that require a literature tutorial assessment.

Based on Ngoumandjoka (2012), it can be concluded that the internet is generally utilized for leisure activities instead of for instructional ones. Singh et al. (2013) indicated that students are increasingly inclined to utilize the internet. Still, they spend most of their time using it for non-academic activities such as email, gaming, and social networking. As a result, this led to setbacks in their academic plans. This explains the contradictory research findings on the influence of internet use on student academic progress. Akin-Adaramola (2014) in a study found that students' top activities are chatting, followed by uploading and viewing multimedia videos, browsing the internet, using the internet to find knowledge for schoolwork, searching for various websites such as sports, online news, games, and shopping online.

The demographic variables of students are assumed to impact internet use and academic performance as a result. A demographic comparison found that adult males were more commonly approved for internet use than females (Akande & Bamise, 2017). A subsequent

comparative assessment showed that male college students spent more time on the internet (Ellore et al., 2014). The cell phone, recognized by Rabi, Muhammed, Umaru, and Ahmed (2016) as one of the devices used to access the internet, appears to affect academic success. They found that smartphones significantly influence academic performance among senior school students, both male and female. Again, Kim (2011) investigated the impact of internet usage on intellectual satisfaction and behavioural improvement among South Korean teenage girls, finding that girls are more likely than boys to use the internet to watch online educational coaching and blogs. Kim found that boys typically use the internet to play sports.

Similarly, a study of the socio-economic context, internet access, and performance of students found no strong association between the socio-economic background of students and internet access (Adegoke, 2013). According to the reports, students from low-income families use their friends' phones to access the internet, their friends pay for them at cyber cafés, and in certain situations, and they could afford to pay for themselves at the cybercafé. However, according to some other studies, students would pay for internet access (Osunade, 2003). Adegoke (2013) discovered that socio-economic records have a substantial impact on a student's satisfaction, while internet usage does not affect a student's academic achievement. Instead, the two combined socio-economic backgrounds and internet usage contributed significantly to educational outcomes.

Time Spent on the Internet

Studies now show that adolescents use the internet for different purposes stem from an adolescent interest in leisure activities (Bragdon & Dowler, 2016; Ogedebe, 2012; Singh et al., 2013). There is abundant evidence demonstrating that internet use has significant repercussions for everything from school grades to personal relationships (Rickert, 2001). The students who spend most of their time using technology for academic and work-related purposes are the upper class. The ones who spend slightly more time using cell phones, online chatting, and social networking are the lower class. Research conducted by Bragdon and Dowler (2016) showed that the use of technology and academic achievement varies according to class status. According to Olatokun (2008), about four-fifths of secondary school students in Nigeria have been regularly using the internet in their daily lives for the previous four to five years. Tertiary students in Nigeria (according to Ogedebe, 2012) check the internet after hours, preferring it to be done at night rather than during the day. It is a widely accepted fact that most students spend about 42.8 hours a week on their electronics (Bragdon & Dowler, 2016).

An analysis of Facebook and academic success was carried out by Krishne and Karpinski (2009). Facebook users, however, have reported lower GPAs and often spend fewer hours per week learning than non-users. According to Singh et al. (2013), students tend to waste time on the internet due to a non-focused approach (mailing, gaming, and social networking). Despite significant problems with internet addiction, Siraj et al. concluded that high internet use has more significant academic consequences because senior high school students can enter the world of information.

Impact of the Internet

Ngoumandjoka (2012) divided internet users into heavy and moderate users. Academic work, he believes, is the primary reason students use the internet on campus. The more scholarly work is shared online, the more it will positively affect academic grades. People who engage in

safe social activities with friends and teachers or use internet tools for route work tend to achieve more excellent academic performance (Torres-Diaz et al., 2016). Aitokhuehi et al. (2014) discovered that internet savvy students perform better than those who are not. Samual (2010) found similar results when studying the influence of internet use among Nigerian secondary students. In comparison to their counterparts in other parts world, his research discovered that internet use among public colleges in Lagos is low. The Internet has now become a familiar object in most people's lives. However, because of its addictiveness, someone who uses it frequently is at risk of negative repercussions. The main risk of utilizing the internet for social networking and emailing, according to Singh et al. (2013), is psychological difficulties.

Türel and Muhammet Toraman (2015) reported that as students' academic performance improves, their internet addiction decreases. This suggests that students' use of the internet has an impact on their academic success. Austin and Totaro (2011) grouped internet users into light, common, and extreme categories. They discovered that university students who use the internet at school and home (moderate use) earn higher grades than those who do not (Aitokhuehi et al., 2014; Kakkar, 2015). Despite the many issues surrounding extreme internet usage, Siraj et al. (2015) concluded that internet use leads to increased academic performance because students can enter the world of information to boost their knowledge. Students' social skills and academic success are protected by their use of the internet (Mami and Hatami-Zad, 2014). The general internet dependency degree of male, vocational school, and verbal discipline college students were more significant than more academically clever students. This lends credence to the notion that how students use the internet might substantially impact their academic achievement (Aitokhuehi et al., 2014; Türel & Muhammet Toraman, 2015). Thus, students should be taught how to use computer tools to double-check their understanding of their academic work.

Challenges in Accessing the Internet

Inadequate, accessibility potential threats, and issues such as pornography, fraud, and other issues, according to Olatokun (2008), are the most significant barriers to total internet usage. Although research has shown that students prefer internet services over other forms of media, they have been challenged (Siraj et al., 2015). Teachers or lecturers may refer students to internet sites for more specific information if they always have access to the internet (Osunnade, 2003). Students at SHS have been found to have insufficient access to the internet. Aside from entry, it's disappointing to see that some students can't even use a computer no matter how many years they've spent in school (Samual, 2010). In the interim, outdated books can be replaced with the internet as a source of information (Osunade, 2003). Accordingly, Yesilyurt et al. (2014) opined that students' academic achievement, on the other hand, is linked to their ability to use computers and connect to the Internet. As there is a significant gap between students who have access to the internet and those who do not, senior high school students should be given the opportunity to explore the internet for information to become digitally literate since the positive outcomes outweigh the negative ones.

Statement of the Problem

Though it is challenging for students to perform their academic duties in the 21st century without using the internet (Ameyaw & Asante, 2016; Shitta, 2002), Ghanaian scholars have scarcely discussed the importance and effect of internet use on student academic success in literature (Yebowaah, 2018). Though, Singh et al. (2013) noted that some learners use the internet for non-academic activities like gaming and social networking, which leads to a lack of study

routines and, learners use the internet for amusement rather than academic goals (Olatokun, 2008; Ngoumandjoka, 2012), which might cause school achievement to suffer, several researchers have indicated that learners at SHS use the internet for several activities, including mapping, downloading materials, viewing online lectures, playing online games and making purchases online for academic work (Akin- Adramola, 2014; Hako, Tobias, & Erastus, 2021; Narh-Kert, Osei & Oteng, 2022). According to recent studies, students' academic success is for educational purposes (e.g., Ameyaw & Asante, 2016; Mami & Hatami-Zad, 2014; Carter, 2016) and learners in senior high school who have complete control over their internet usage have generally mirrored this in their academic achievement (Yebowaah, 2018). However, research on internet usage among SHS students in the Cape Coast Metropolis is lacking. As a result, the focus of this Study is on internet usage and its influence on secondary school students in Cape Coast Metropolitan Area in Ghana.

Research Questions

1. What are the sources of students' access to internet usage in the selected senior high schools?
2. What is the frequency of internet use by students in the selected senior high school?
3. What is the consequence of internet usage on students' academic success in the selected senior high school?

Hypotheses

1. Ho₁: there is no statistically significant mean difference between mean scores of students who have internet access and those who do not.
2. Ho₂: there is no statistically significant mean difference between mean scores of students who use internet services and those who do not use them.

Significance of the Study

Students and society at large would benefit from the skills associated with the use of the internet. This is because, even after their course of the research, the skills will be a part of them and help them cope with real-life issues and look for online tools. It also helps them plan after school for life. This Study would make way for more research in relevant fields to be undertaken, contributing to information, enhancing practice, informing policy, and helping teachers consider new ways of teaching and learning. In addition, the results would be relevant in many ways to different stakeholders. For example, the Study would help to uncover the value of internet usage and its effect on students' academic success is a good learning environment to help educators and learners develop the abilities to expand their thinking about the teaching and learning skills required to provide quality education.

METHODOLOGY:

Research Design

To achieve the study goal and precise goals, a descriptive cross-sectional survey research design was used to assess students' internet use and academic performance in Senior High Schools. Therefore, the purpose of the survey was to investigate access to the internet and how the use of the internet affects students' academic performance.

The population of the Study

The target population for this research consists of schools in the Cape Coast metropolis. The accessible population was second-and third-year students pursuing different programmes in the Senior High School 2019/2020 academic year. In the Cape Coast metropolis, the estimated population of years 2 and 3 students from the three selected schools was about 1,300.

Sample and Sampling Procedure

The sample consisted of students from years 2 and 3 because they have been in school for a year or two and somehow have more experiences than the first years. A stratified random sampling technique was used to select the students who participated in the research. Yamane's mathematical sample determination formula (1973). In all, 150 students responded to the questionnaire.

Instruments

Close and open-ended questions were designed and provided to students with self-administered questionnaires to assess the usage of the internet and the effect on academic results. The questionnaire consists of three parts. The first part details students' background information, gender, age, study program, form, residential status, sex-based type of school, and current average score for demographic details, as indicated in section A. Section B consisted of 9 statements about access to the internet by students. A dichotomy question, Yes or No, closed, and open-ended questions were given to students. Section C, given a 4 scale of daily, weekly, monthly, and not at all to choose, consisted of 13 statements on the frequency of internet usage and academic performance.

Data Collection Procedure

Data was obtained from senior high school students in June 2020 using questionnaires on google forms platform. Respondents were identified through their various WhatsApp group platforms through their teachers, and copies of the questionnaires were sent to them. The questionnaires were self-administered since they were all literate respondents (students).

Data Analysis Procedure

Data on background information from spreadsheets was transferred to the Statistical Package for Social Sciences (SPSS) and analyzed using frequencies, percentages, means, and standard deviation. The means contributed to the analyses of the t-test to show differences.

RESULTS AND DISCUSSION

Background Information of Respondents

The research shows the context of the respondents' significant attributes. The critical variables under consideration include gender, study program, residential status, and gender-based school type (single or mixed). Table 1 shows how the variables are distributed.

Table 1: Demographic Information for Students

Variable	N=150	N (%)
Gender	Males	76 (51.0)
	Females	74 (49.0)
Programme of Study	Agriculture	5 (3.3)

	Business	20 (13.3)
	General Arts	61 (40.7)
	General Science	37 (24.7)
	Home Economics	19 (12.7)
	Technical	4 (2.7)
	Visual Arts	4 (2.7)
Form	2	50 (33.0)
	3	100 (67.0)
Residential Status	Boarding	117 (78.0)
	Day	33 (22.0)
Type of school based on sex	Single-Sex schools	48 (32.0)
	co educational schools	102 (68.0)
Population of Students	School A	500 (38.0)
	School B	350 (27.0)
	School C	450 (35.0)

Source: Online Respondents, (2020)

From Table 1, out of 150 respondents investigated, 51.0% were males, and 49.0% were females. This shows that males tend to use the internet more than females. The students studied various academic programs, including Agriculture, Business, General Arts, General Science, Home Economics, Technical and Visual Arts.” The majority of students (40.7%) study General Arts, whereas the least, 2.7% each Study Technical and Visual Arts. It was also observed that form 2 students were 50, which represents 33.0% and form 3 students were 100, representing (67.0%). Similarly, 78.0% of the respondents represent boarding students, and 22.0% are day students who stay at home while attending school. Students from Single-Sex schools were 48 (32%), and co-educational schools were 102 (68%). The total number of students in each of the three schools, A, B, and C, were 500 (38%), 350 (27%), and 450 (35%).

Students Access and Frequency of Internet Use

An assessment of students' internet accessibility is one of the research's outcomes. First and foremost, the availability of various forms of internet access to them has been investigated and the frequency with which they use various internet sources.

Research Question 1: What are the sources of internet usage by students in the selected senior high schools?

The data were presented in percentages to aid in answering this research question. The results are shown in Table 2, which lists the most relevant internet sources that respondents can access. Findings in Table 2 suggest that many schools have ICT Laboratories in their schools. This is true since many of the schools listed have ICT Laboratories on which students can rely. However, the fact that 68 % of them indicated that internet facilities are available in school suggests that some laboratories are not operational.

Table 2: Students' Access to the Internet

Variable	N=150	N (%)
-----------------	--------------	--------------

Availability of ICT Laboratory in school	143	95.3
Availability of internet facility in the school	102	68.0
Enough facilities to access the internet	81	54.0
Access to the public internet	57	38.0
Having a mobile phone	138	92.0
Mobile phone access to the internet	137	91.3

Source: Online Respondents, (2020)

Furthermore, many students do not have access to the internet, which means they would be unable to use it efficiently for their academic work. This supports Olatokun (2008) findings, who found that inadequate internet connectivity is a problem among students in Nigeria. Personal mobile phones and public internet cafes are the most common ways to access the internet, accounting for 91.3 percent and 38 percent of all users, respectively. The findings indicate that students with cell phones have internet networks installed, allowing them to access the internet. This supports Ellore et al. (2004)'s claim that cellphones have expanded students' internet access. The desire to use cell phones to access the internet is global. The survey often provided a breakdown of how much people use the internet. The respondents were asked to describe their regular use of the internet from a variety of sources.

Research Question 2: What is the frequency of internet use by students in the selected senior high schools?

The results of research question 2 are presented in Table 3. Table 3 shows how the internet available to them was used. 37.3% use their ICT Laboratories internet in school daily, 25.3% use it weekly, 7.3% use it monthly, and 30.0% not at all.

Table 3: Frequency of Internet Use

Sources of internet	Frequency of internet use				
	Daily (%)	Weekly (%)	Monthly(%)	Not at all	Total (%)
School ICT Laboratory	56 (37.3)	38 (25.3)	11(7.3)	45(30.0)	150 (100)
Mobile Phone	130 (86.7)	12(8.0)	3(2.0)	5(3.3)	150(100)
Household Internet Facility	31(20.7)	13(8.7)	4(2.7)	102(68.0)	150(100)
Public Internet Café	7(4.7)	16(10.7)	16(10.7)	111(74.0)	150(100)

Source: Online Respondents, (2020)

Using mobile phones for the internet, 86.7% indicated they use it daily, 8.0% use it weekly, 2.0% use it monthly, and 3.3% not at all. For access to household internet facilities, 20.7% use it daily, 8.7% use it weekly, 2.7% use it monthly, and 68% not all. In public internet cafés, 4.7% use it daily, 10.7% use it weekly, 10.7% use it monthly, and 74% do not at all. According to the results, regular internet use is higher with mobile phones, and those who use the internet weekly use their school ICT laboratories. These results support Bragdon and Dowler's (2016) empirical

evidence that students with smartphones spend more time on the internet.

Internet Use and Academic Performance

Research Question 3: What is the consequence of internet usage on students' academic success in the selected senior high school?

The findings are presented in Tables 4 and 5. The Study's results provide the impact of internet access on academic performance among students. Percentages, means, standard deviation, independent samples t-test were used in the analysis. From Table 4, 95.3% and 91.3 % of the respondents indicated that they have internet access in their school labs and mobile phones. For household internet and public internet accessibility, 62% indicated that they had no internet access in each case.

Table 4: Internet Access and Academic Performance

Sources of internet	N	(%)	Mean	(SD)	T	Sig. level
School ICT Lab						
Yes	143	95.3	1.042	.201		
No	7	4.7	1.142	.377	1.226	.027
Internet on mobile phone						
Yes	137	91.3	1.064	.246		
No	13	8.7	1.285	.487	2.194	.001
Household internet						
Yes	57	38.0	1.612	.488		
No	93	62.0	1.714	.487	0.538	.141
Access to public internet at home						
Yes	57	38.0	1.612	.488		
No	93	62.0	1.714	.487	0.538	.592

Source: Online Respondents, (2020)

1. Ho1: there is no statistically significant mean difference between mean scores of students who have internet access and those who do not.

Again, the analysis in Table 4 explored if there is a difference between internet use and academic performance. Given the two-tailed t-test, the P values for the following access to internet include; P = 0.027 with ICT laboratories in school, ($t(150) = 1.22$, $M = 1.042$, $SD = 0.201$), compared to those without ICT laboratories in school has $M = 1.142$, $SD = 0.377$), mobile phone access to internet ($t(150) = 2.194$, $P = 0.001$, $M = 1.064$, $SD = 0.246$), compared to those without access ($M = 1.285$, $SD = 0.487$), household internet facility, $P = 0.141$, ($t(150) = 0.538$, ($M = 1.612$, $SD = 0.488$) and those without access ($M = 1.714$, $SD = 0.487$) on household internet facility. Access to public internet café at home, $P = 0.592$, ($t(150) = 0.538$, ($M = 1.612$, $SD = 0.488$), compared to those without access ($M = 1.714$, $SD = 0.487$). From the analysis, it is observed that there are differences in academic performance of students with access to the internet in their school labs or on their mobile phones. However, for those students

with access to household internet and that of public places, and those without, there are no differences in their academic performance.

Table 5 also shows the outcome of internet use on the academic performance of senior high school students. Regarding the search for library resources, 66.6% indicated that they used the internet to search for library resources, whereas only 36% confirmed using social media for searching for resources.

Table 5: Internet Use and Academic Performance

Sources of internet	N	(%)	Mean	(SD)	T	Sig. level
Search for library resources						
Yes	100	66.6	1.333	.472		
No	50	33.3	1.857	.377	3.696	0.08
Social Media						
Yes	51	36.0	1.037	.190		
No	94	60.6	1.065	.249	0.748	.139

Source: Online Respondents, (2020)

Ho2: there is no statistically significant mean difference between mean scores of students who use internet services and those who do not use them.

About internet use and academic performance, it is reported as ($t(150) = 3.696$, $P = 0.08$) on access to library resources, ($M = 1.33$, $SD = 0.472$) compared with those without ($M = 1.86$, $SD = 0.377$). For social media, ($t(145) = .784$, $P = 0.139$), mean of ($M = 1.037$, $SD = 0.190$) compared with those without ($M = 1.065$, $SD = 0.249$). This shows that internet use to search library resources and for social media does not necessarily influence academic performance.

Table 5 depicts students' internet use and academic success. First and foremost, many schools have ICT laboratories that are not in use (Table 4). In the survey, 95.3 percent of students reported the availability of ICT labs, although only 68 percent suggested that their school has internet access. This demonstrates that most schools have ICT labs but no internet access. Table 3 shows that having access to the internet improves senior high school students' academic performance instead of those who do not have access to the internet. Students who have access to the internet may perform better because they have access to a wider range of information. The results back the findings of several longitudinal research on the positive effect of the internet on academic success (Aitokhuehi et al. 2014; Kakkar, 2015; Ngoumandjoka, 2012; Torres – Diaz et al., 2016). The Study's findings examine how various internet uses influence students' success. The internet is used for a variety of purposes, including social media and searching for library services. The assessment was carried out with descriptive statistics, and the analyses of the independent samples were carried out with T-tests as shown in the table above. According to the table, students who use the internet for social media have a mean score of 1.03 and a standard deviation of 0.19.

In contrast, students who do not use the internet for social media have a mean score of 1.06 and a standard deviation of 0.24. Even at 10%, the test value of 0.748 is not essential. This means that the

sample mean is less than the hypothesized mean, indicating that the null hypothesis is false. The mean and standard deviation for access to library services are 1.33 and 0.472, respectively. The test value of 3.69 indicates that various internet uses have no major impact on students' academic success. This implies that whether a student uses the internet for social media or to search for library content does not necessarily affect their academic results. According to Olatokun (2008), various internet uses provide daily grasp and, as a result, enhance reading skills; however, Siraj et al. (2015) argue that the internet sources are a supplementary learning supply from unique sources that lead to students' academic success. This justification may explain that different internet uses do not affect a general daily norm of student academic performance.

Conclusion and Recommendations:

Conclusion

Access to the internet improves academic standards among students, as those with internet access showed more significant progress in their academic performance than those who did not, though the presence of numerous connections to 'internet portals' does not imply immediate access to all of them. Students in some Senior High Schools are unable to access the internet due to a lack of resources. Furthermore, due to school preferences, especially those focused on the internet, proper internet access is restricted among some senior high school students. On the other hand, students who are focused on the internet engage in home and public internet, which have little bearing on academic performance. From the foregoing, it is clear that students who have access to the internet have used it in various ways but most especially use it to facilitate and support their academic achievement.

Recommendations

The researchers made the following recommendations based on this Study's research objectives, analysis, and findings.

- 1) It is recommended that Heads of Institutions liaise with other stakeholders and supporting management to provide internet facilities. This is significant because internet facilities in schools are crucial in supporting academic performance.
- 2) The School ICT Laboratories should be well equipped with internet facilities to assist student research and Study.
- 3) Students should be taught how to search for academic information or materials online.
- 4) There should be effective supervision of students on internet use by teachers and parents so that students do not solely concentrate on social media.

QUESTIONNAIRE ON THE IMPACT OF INTERNET USAGE ON STUDENTS' SUCCESS IN SELECTED SENIOR HIGH SCHOOLS IN CAPE COAST METROPOLIS, GHANA

Introduction

This questionnaire is being used to gather information on “**The Impact of Internet Usage on Students' Success in Selected Senior High Schools in Cape Coast metropolis, Ghana**”. Kindly complete all the items in the questionnaire as frankly as possible. The responses will be used for research purposes only. The information is being collected as part of a study on Internet use and its impact on academic achievement and it is therefore strictly for academic purposes. I will be

grateful to have you take part in the Study by responding to the items as honestly as possible. Please be assured that the information you provide will be kept confidential. Thank you.

A. Background information

1. Gender: a. Male [☐] b. Female [☐]
2. Age
3. Programme of study:
 - a. Agriculture [☐]
 - b. General Arts [☐]
 - c. General Science [☐]
 - d. Business [☐]
 - e. Home Economics [☐]
 - f. Technical [☐]
4. Level: a. Form 1 [☐] b. Form 2 [☐] c. Form 3 [☐]
5. Type of school based on residential: a. Boarding [☐] b. Day
6. Type of school based on gender: Single [☐] b. Mixed [☐]
7. What is your current average score

B. Access to the Internet

8. Does your school have an ICT laboratory? a. Yes [☐] b. No [☐]
9. Does your school have an internet facility? a. Yes [☐] b. No [☐]
10. Are there enough facilities in your school's ICT laboratory to enable you to access the internet?
 - a. Yes [☐] b. No [☐]
11. Do you directly pay for the use of the internet in your school? a. Yes [☐] b. No [☐]
12. If 'YES' What is the hourly rate for internet use in your school? (GHC)
13. Do you have a mobile phone? a. Yes [☐] b. No [☐]
14. Can your mobile phone access the internet? a. Yes [☐] b. No [☐]
15. How much do you spend on your mobile phone for accessing the internet per month? (GHC)
16. Do you have access to public internet cafes when you are at home?

C. Internet Use and Academic Performance

17. Which of the following sources of the internet do you use? (tick as many as possible)
 - a. School ICT laboratory internet [☐]
 - b. Internet on mobile phone [☐]
 - c. Household internet facility [☐]
 - d. Public internet café at home [☐]
18. How often do you use the internet from the following sources?

Internet Sources	Frequency of internet use			
School ICT laboratory internet	Daily [☐]	Weekly [☐]	Monthly [☐]	Not at all [☐]
Internet on mobile phone	Daily [☐]	Weekly [☐]	Monthly [☐]	Not at all [☐]
Household internet facility	Daily [☐]	Weekly [☐]	Monthly [☐]	Not at all [☐]
Public internet café at home	Daily [☐]	Weekly [☐]	Monthly [☐]	Not at all [☐]

19. What do you use the internet for? (select all that apply)

- a. Social Media (e.g. Facebook, WhatsApp, Instagram, YouTube, Twitter, etc.) []
 - b. Search for study materials []
 - c. News []
 - d. Others (specify).....
20. Do you use the internet to access library resources? a. Yes [] b. No []
21. How many hours of internet use do you spend on the following per week?
- a. Social Media
 - b. Search for study materials
 - c. News
 - d. Others (specify).....
22. Does the use of the internet improve your academic performance? a. Yes [] b. No []
23. How does your academic performance improve through the use of the internet? (Select as many as possible).
- a. Improved knowledge in ICT []
 - b. Ability to access academic information []
 - c. Increase in average score []
 - d. Improves my communication skills []
24. In what way does the use of the internet affect your academic performance? (Select as many as possible).
- a. Addicted to social media []
 - b. Reduce the time available for studies []
 - c. Vulnerability to immoral sex []
 - d. Decreases my average score
25. Which of the following factors limit your internet use for academic activities?
- a. Do not have access to regular internet []
 - b. Slow transmission []
 - c. Do not have a personal device for internet connectivity []
 - d. Lack the searching skills []
 - e. Addicted to social media and hence less time available for academic work []
 - f. Others (specify).....

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

This article does not contain any studies with animals performed by any of the authors.

Conflicts of interest.

The authors of this paper certify that they have NO affiliations with or involvement in any organization or entity with any financial or non-financial interest (such as honoraria; educational grants; membership, employment; affiliations, knowledge or beliefs) in the subject matter or materials discussed in this manuscript.

References:

- Adegoke, S. P. (2013). Socio-economic background and access to the internet as correlates of students' achievement in agricultural science. *International Journal of Evaluation and Research in Education (IJERE)*, 2(3), 123-128. Retrieved on June 30, 2020, from <http://iaesjournal.com/online/index.php/IJERE>.
- Aitokhuehi, Oseghale, J. & Ojogho, J. (2014). The impact of computer literacy on students' academic performance in senior secondary schools in Esan West local government area. *Journal of Education and Human Development*, 3(3), 265-270. DOI:10.15640/jehd.v3n3a21.
- Akin-Adaramola, O. S. (2014). *The internet usage among secondary school students: A case study on Labone Secondary School*. Retrieved April 20, 2021 from <https://air.ashesi.edu.gh/handle/20.500.11988/154>
- Ameyaw, S. & Asante, E. (2016). Internet usage by distance students in private university libraries in GHANA. *International Journal of Computer Science and Network*, 5(3), 513-522.
- Austin, W. & Totaro, M. W. (2011). High school students' academic performance and internet usage. *Journal of Economics and Economic Education Research*, 12(1), 41-54.
- Bragdon, R. A. & Dowler, K. (2016). College student technology use and academic performance. Center for promoting ideas, USA. *International Journal of Humanities and Social Science*, 6(1), 12-22.
- Carter, S. P., Greenberg, K., & Walker, M. (2016). The impact of computer usage on academic performance: Evidence from a randomized trial at the United States Military Academy. *School Effectiveness and Inequality Initiative Discussion Paper #2016.02*, 56, 118-132. DOI: 10.1016/j.econedurev.2016.12.005
- Craver, K. (1987). Use of academic libraries by high school students: Implications for research. *RQ*, 27(1), 53-66. Retrieved February 28, 2021, from <http://www.jstor.org/stable/25827990>
- Ellore, S. B., Niranjan, S., & Brown, U. J. (2014). The influence of internet usage on academic performance and face-to-face communication. *Journal of Psychology and Behavioral Science*, 2(2), 163-186.
- Hako, A., Tobias, E., & Erastus, K. (2021). *Exploring the e-teaching and learning experiences of lecturers amidst COVID-19 at one of the University of Namibia satellite campuses*. European Journal of Educational Sciences, 8(4), 92-110. doi: 10.19044/ejes.v8no4a92
- Kakkar, N., Ahuja, J., & Dahiya, P. (2014). Influence of internet addiction on the academic performance and mental health of college students. An international peer-review and referred. *Scholarly research journal for interdisciplinary studies*, 3(21), 1151-1156.
- Kim, S. (2011). Effects of internet use on academic achievement and behavioural adjustment among South Korean adolescents: Mediating and moderating roles of parental factors. *Child and Family Studies – Dissertation* 62. Retrieved on June 28, 2020, from https://surface.syr.edu/cfs_etd/62
- Kirschner, P. A. & Karpinski, A. C. (2009). Facebook and academic performance. The Open University of the Netherlands, the Ohio State University: Ohio State University Press.
- Kumah, C., H. (2015). A comparative study of the use of the library and the internet as sources of information by graduate students in the University of Ghana. *Library Philosophy and Practice (e-journal)*, 1298. Retrieved on June 29, 2020, from <http://digitalcommons.unl.edu/libphilprac/1298>.
- Mami, S. & Hatami-Zad, A. (2014). Investigating the effect of internet addiction on social skills and in high school students' achievement. *International J. Soc. Sci. & Education*, 4(3), 56-61.
- Mbongo, E., Hako, A., & Munangatire, T. (2021). *Benefits and Challenges of Online Teaching*

- During the COVID-19 Pandemic at Rundu Campus of the University of Namibia*. European Journal of Educational Sciences, 8(4), 53-64. doi: 10.19044/ejes.v8no4a53.
- Narh-Kert, M., Osei, M., & Oteng, B. (2022). *Readiness of Education 4.0 in Ghana*. *Open Journal of Social Sciences*, 10(1), 502-517
- Ngoumandjoka, U. (2012). *Correlation between internet usage and academic performance among university students*. Johannesburg: University of the Witwatersrand.
- Ogedebe, P. M. (2012). Internet usage and students' academic performance in Nigeria tertiary institutions: A case study of the University of Maiduguri. *Academic Research International*. 2(3), 334-343.
- Olatokun, W. M. (2008). Internet access and usage by secondary school students in a Nigerian municipality. *SA Jnl Libs & Info Sci*. 74(2), 138-148. Retrieved June 10, 2020, from <https://doi.org/10.7553/74-2-1295>
- Osunade, O. (2013). An evaluation of the impact of internet browsing on students' academic performance at the tertiary level of education in Nigeria. Retrieved June 10, 2020, from http://www.rocara.org/smallgrant_nigeria2003.pdf
- Rabiu, H., Muhammed, A. I, Umaru, Y., & Ahmed, H. T. (2016). Impact of mobile phone usage on academic performance among secondary school students in Taraba State, Nigeria. *European Scientific Journal*, 12(1), DOI:10.19044/esj. 2016.v12n1p466.
- Rickert, B. (2001). Adolescent cyber surfing for health information: A new resource that crosses barriers. *Archives of Pediatrics & Adolescent Medicine*, 155(2), 813- 817.
- Rose, S. A. & Fernlund, P. M. (1997). Using technology for powerful social studies learning. *Social Education*, 61(3), 160. Retrieved on July 29, 2020, from <https://www.learntechlib.org/p/82549/>.
- Sahin, Y. G., Balta, S., & Ercan, T. (2010). The use of internet resources by university students during their course projects elicitation: A case study. *TOJET: The Turkish Online Journal of Educational Technology*, 9(2), 234-244.
- Sampath Kumar, B. T. & Manjunath, G. (2013). Internet use and its impact on the academic performance of university teachers and researchers: A comparative study. *Emerald Journal of Higher Education, Skills and Work-Based Learning*, 3(3), 219–238.
- Singh, B., Gupta, R., & Garg, R. (2013). Study of medical students and internet usage. *International Journal of Scientific and Research Publications*, 3(5). Retrieved June 28, 2020, from www.ijsrp.org.
- Siraj, H. H., Salam, A., Hasan, N. A., Jin, T. H., Roslan, R. B., & Othman, M. N. B., (2015). Internet usage and academic performance: A study in a Malaysian Public University. *International Medical Journal*, 22(2), 83-86. Retrieved June 20, 2020, from <https://www.researchgate.net/publication/275833912>.
- Techopedia. (2020, August 17). *Internet*. Retrieved September 17, 2021 from
- Torres-Díaz, et al. (2016). Internet use and academic success in university students. *Media Education Research Journal*, 61-70. Retrieved on June 26, 2020, from www.comunicarjournal.com. DOI. <http://dx.doi.org/10.3916/C48-2016-06>.
- Türel, Y. K. & Toraman, M. (2015). The relationship between internet addiction and academic success of secondary school students. *Anthropologist*, 20(1,2), 280-288.
- Yamane, T. (1973). *Statistics: An introductory analysis* (3rd ed.). New York: Harper and Row.
- Yebowaah, F. A. (2018). *Internet use and its effect on senior high school students in Wa Municipality of Ghana*. Retrieved June 2, 2021 from <https://digitalcommons.unl.edu/libphilprac>.
- Yesilyurt, E., Basturk, R., & Kara, I. (2014). The effect of technological devices on student's

academic
5(1), 39-47.

success: Evidence from Denizli. *Journal of Internet and Application Management*,