

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

August 2020

The Use of Computers by Students to Access Information Literacy: Case of Okuapeman Senior High School (S.H.S.), Ghana

Kwesi Gyesei

University of Ghana, Legon, kgyesei@ug.edu.gh

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

Gyesei, Kwesi, "The Use of Computers by Students to Access Information Literacy: Case of Okuapeman Senior High School (S.H.S.), Ghana" (2020). *Library Philosophy and Practice (e-journal)*. 4161. <https://digitalcommons.unl.edu/libphilprac/4161>

**THE USE OF COMPUTERS BY STUDENTS TO ACCESS INFORMATION
LITERACY: CASE OF OKUAPEMAN SENIOR HIGH SCHOOL (S.H.S.), GHANA**

BY:
KWESI GYESI
UNIVERSITY OF GHANA, BALME LIBRARY
Email: kgyesi@ug.edu.gh

PATIENCE ASANTEWA OHENE
Email: asantewan@yahoo.com

ABSTRACT

The use of computers by students to access information literacy is very important and integral because it forms the basis for lifelong learning. The study seeks to investigate how students recognize their information needs, the strategies used by them to locate and access information needed, how they evaluate search results and the challenges to the effective use of information by the students at the Okuapeman Senior High school. The study employed survey methodology and adopted the proportionate sampling procedure through the use of a structured questionnaire to sample 84 students out of the population of 670. The findings revealed that students need information for academic work, problem-solving, personal development, career development, an update on current issues, decision making, entertainment, employment and pleasure. They mostly consult knowledgeable person and teachers to complete their information task. The students select the most appropriate search tools, use the appropriate keyword(s), identify appropriate search techniques, and define appropriate search strategy through the use of both Internet and the Library to locate and access information. The students read critically to identify the key points thereby evaluating their search results. The challenges they encounter include poor attitudes of library staff and lack of time. Based on the findings the following recommendations were made: employing trained school librarian, installing internet connectivity, allocating more time and improving searching skills so that students can effectively use computers to access information literacy.

Keywords: Information literacy, computers, information needs, information task, search strategies, evaluating search results

1. Introduction

This era has been described as the Information Age because of the belief that the 21st century society is knowledge-based where data, information and knowledge are integral to the existence of the human race (Rowley & Hartley, 2008). This view is affirmed by Farmer and Henri (2008) that the recent decades have been termed the "information age," and the early twenty-first century has given rise to the "knowledge age" with the awareness that information in itself cannot solve problems; it is the effective use of information that promises solutions, therefore people need to be information literate. Access to information is imperative to the successful conduct of research in schools. The view is affirmed by Adeloje (2000) that access and use of information is needed "for problem-solving and decision making" in the research process.

There are abundant of information for students in the senior high school to use. Some of this information can be located in the school library. According to Elaturoti (2006), the school library is defined as "the heart of the school around which all school programmes revolve." Oluwaniyi (2015) indicated that there is the need for materials to be made available so that the school library will carry out its tasks of serving the students effectively. Oluwaniyi also continues that these resources in the school library include print, non-print and other wide range of information materials such as electronic resources. Some of these resources need access to computers so that students can efficiently use the resources. Because of that computers have become an integral part and parcel of life. Computers have become unavoidable instruments now in all fields of human life. As such, the use of computer technology is replacing the manual efforts leading to the importance of ICT.

The development of Information and Communication Technology (ICT) and its application to education and training have increasingly allowed institutions to deliver teaching and learning in a variety of modes. The use of ICT in education adds value in teaching and learning, by enhancing the effectiveness of learning, or by adding a dimension to learning that was not previously available. ICT may also be a significant motivational factor in students' learning and can support students' engagement with collaborative learning. Even though students of today have increasing facility with computers and electronic media, yet still they need to develop the skills to locate authoritative information (Emmons & Martin, 2002; Lombardo & Miree, 2003; Maughan, 2001)

and to effectively analyze the quality, quantity, and source of the information they retrieve (Majka, 2001). Students need to achieve a level of information literacy that will allow them to find, assess, and use information in order to succeed in school, the workplace, and their personal lives (Gross & Latham, 2007).

Information literacy is therefore defined from the Alexandria Proclamation of 2005, adopted by UNESCO's Information for All Programme (IFAP), as the capacity of people to recognise their information needs, locate and evaluate the quality of information, store and retrieve information; make effective and ethical use of information, and apply information to create and communicate knowledge. Information literacy (IL) also has been defined by the American Library Association (2000) as "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information." (p.2).

In the library or information profession, information literacy is a new concept and it was first called library skills or user education and most people called it information literacy or information skills (Debbi & Holloway, 2005 as cited in Madu, 2013) and in recent times it is called media and information literacy (MIL). Even though information literacy is a new concept in the information but is first accredited to Paul Zurkowski in 1974, then the Information Industry Association (IIA) president when he recommended people should be called information literates when they are trained in the information resources application. This means that people have learnt the techniques and strategy of using various information tools in bringing solutions to problems. The information literacy concept was improved by the American Library Association and therefore there is the need to raise the awareness of the importance of information literacy. The Alexandria Proclamation of 2005 recognizes information literacy as "a basic human right in the digital world" as it empowers individuals "in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals". Also, according to Cooney and Hiris (2002), educating students in information literacy is not only a worthwhile goal but is an essential component in the development of students as lifelong learners.

The use of computers by students to access information literacy is very important and integral because it forms the basis for lifelong learning. It is common to all disciplines, to all learning environments and to all students in senior high school (American Library Association, 2000). This

offers the senior high students with the ability to use digital technology, communication tools and networks to define information needs, access information and manage information, evaluate information, and communicate this information to others. This means the use of computers by students to access information literacy gives the senior high student's the ability to use computers to investigate, create and communicate in order to participate effectively at home, school, workplace and in the community (Fraillon, Schulz, & Ainley, 2013).

Senior high school students need to be information literate in order to succeed in the Information Age thereby achieving their academic excellence. This is because they are those who will one day become the future leaders who will solve problems thereby transforming the society. It is therefore prudent for them to acquire the skills of information literacy so that they will acquire the necessary knowledge in their disciplines. Therefore, the purpose of the study was to investigate the use of computers by students to access information literacy in the Okuapeman Senior High School in the Akuapem North Municipality of the Eastern Region of Ghana and recommending solutions where necessary. The study has the following as objectives:

1. To determine how Okuapeman Senior High school students recognize their information needs.
2. To determine the strategies used by students to locate and access the information needed.
3. To find out how students evaluate search results.
4. To find out the challenges to the effective use of information by the students.

2. Literature Review

2.1 Recognition of information needs

According to McGarry (2004), information needs are basic but it is difficult to define because of the imprecise and inaccurate nature of the term. He continues that for students to be in need means he or she lacks something and if gotten or satisfied it will make it easy or possible to attain his or her objectives. He was further indicated that needs can be used synonymously to want (the state of not having sufficient necessities), desire (unsatisfied passion), demand (asking for something) and requirement (a thing needed and must be satisfied). All these tell us that the concept of need is not clear. Needs are state of felt deprivation. A student needs to recognize his or her information needs before seeking information.

To recognize information needs one as to determine the choice of the user, formulation and expression of their problem in hand regarding the task. Based on this, Miranda and Tarapanoff (2008) indicate that it is possible to recognize an information need but it is also possible to not necessarily have the competencies to retrieve the information.

2.2 Strategies used by students to locate and access information needed

A search strategy is broadly defined as the plan for a search function. When students conduct searches, they must have a strategy of combining the choice of terms or operators (Vakkari, Pennanen, & Serola, 2003). The search strategy deals with the internet search strategy.

2.2.1 Internet Search Strategy

With the emergence of the internet, the researcher begins to find new types of search strategies in the web-based information environment. As long as schools are integrating technology into their curricula, students' needs to get themselves acquainted to the new literacies in order to prepare them for the future. For students to fully participate in the new literacy world there is the need for them to be proficient in the use of the ICT (IRA, 2002).

The ability to locate information is the most important among the five functions of the new literacy. This will help the students to search and retrieve relevant information on the Internet. Students need the Internet because of its flexibility and dynamism in information retrieval, storage and processing. Internet is very paramount to high school student in order to facilitate timely, accuracy and relevant access to relevant information for their academics (Adomi, Omodeko, & Otolu, 2004). Sources of the internet like search engines have helped to increase the capacity of students in searching and accessing information. It has made it easy for high students to access unlimited information in the most convenient manner. It provides worldwide access to information resources. The Internet has become the symbol of the Information Age and a means of accessing and sharing information now extending throughout the whole culture of human beings (Song & Khong, 2001).

Students not only use the Internet to search for materials to complete their assignment but also use it to gather resources to supplements curricular offering (Adomi, 2003). In the same vein, William (1999) as cited in Nneka, Obiora, and Agbo (2014) opines that students use the Internet to send

and receive messages using electronic mail, Internet telephoning, keyboard chat and video conferencing. The common search strategies and techniques used in searching include:

- I. **Boolean operators:** This is a system of symbolic logic formulated by George Boole. It uses AND, OR and NOT operator to include or exclude keyword(s) in a search. It narrows or broadens your search depending on the type of operator used. Thus, AND narrows, OR broadens and NOT limits your search.
- II. **Phrase searching:** It involves searching for the exact word or phrase. It narrows your search by putting the words in double quotation marks. Example, “information management”. It retrieves only information management and in that particular order.
- III. **Truncation:** It is used to search for a variation of words at the common root. Example, complet* retrieves complete, completing, competition among others.
- IV. **Range searching:** It is used to search for numeric data. It uses the two periods (..) which limit your search to a particular year. Example, Marketing 2010..2020. It retrieves information on marketing from the year 2010 to 2020 only.
- V. **Fuzzy searching:** It searches for webpages of the word(s) which are mis-spelt. The search engine returns result that it predicts will be relevant, even when the query does not appear anywhere in the matched documents. It tells you “do you mean this”

2.3 Evaluation of search results

Evaluation is the assessment or judgement of the worth of a system. It is done to ascertain the performance or value of the system. Students in high school must evaluate the quality of particular sources both manually and electronically. This will help the students to know which information is good and which information could satisfy his or her information needs.

Generally, students must evaluate the manual sources of information by the use of authority (the person who wrote the material), currency (the information material is up-to-date), accuracy (by checking whether the fact is complete and reliable), objectivity (the issues being discussed is fair but not bias). This has been supported by Yeboah (2016) and Dadzie (2010). In the study of Yeboah, she indicated that the credibility of information sources must be evaluated by using the:

- I. Authority of the author and the background of the publisher
- II. Objectivity of the author

- III. Quality of the work
- IV. Currency of the work
- V. Relevancy of the work.

Based on this, Dadzie (2010) gave general criteria for evaluating the numerous information available on the internet. These are authority (the author of the site including his status must be indicated), content (the scope/purpose of the site that is whether the site is well written or documented), design (whether the site is error-free, readable or there are hyperlinks), organization and navigation (how the information is organized, is it logical and does it have navigation elements), and access and use (that is the speed of accessibility). Students must be taught how to evaluate information sources both manual and on the Internet so that they can use computers to access relevant and quality of information.

2.4 Information literacy studies in SHS within and outside Africa

There have been several studies of information literacy within and outside Africa.

In Singapore, Foo et al., (2014) investigated information literacy skills of Secondary School Students in Singapore. The exploratory study adopted the method of a knowledge test and survey through the use of questionnaire and they sampled 31,467 students from 41 schools. They found that more than 40% of the students rarely visited and use the school library resources and more than 50% of the students never visited the library. They use the Big6 model to assess the information literacy skills and they found that task definition was the best performing area whereas information synthesis was the poorest performing area with a mean score of 29.68/100. Also, they found that owing to a personal computer isn't the issues but having internet access make the difference especially for information seeking, location and access and information use. The findings further showed that majority of the students were of the issues of censorship as against collaborative information seeking. Finally, the study found out the human information sources used and it was realized that majority consult their peers/classmates, friends and teachers (30%), followed by family (20%), some consult librarians and others (10%).

In Africa, Adeyemi (2017) conducted research at the University of Ilorin on an empirical study on the traits of information literacy among Senior Secondary School in Ilorin, Nigeria. The study

employed a descriptive survey and adopted the disproportionate stratified random sampling techniques through the use of a structured questionnaire to sample 210 students. The findings revealed that majority of the respondents can articulate current knowledge on a topic. The study also revealed that majority of the respondents cannot identify specialist search tools. Also from the study, it was revealed that the majority disagree that they can scope search questions clearly and in appropriate language (78.1%) while few agree (21.9%). Concerning appropriate search techniques, the majority disagree that they can identify search techniques (85.9%) and others agree (14.1%). In relation to the appropriate search tools, the majority agree (80.7%) and others disagree (19.3%). The findings further showed that 81.3% disagree that they use indexes and card catalogue to search for information whilst 18.7% agree that they use it. Also, the majority use Boolean operators to search for information (57.8%). Furthermore, majority of the respondents disagree that they use the internet to search for information representing 78.6 and the majority agree that they use the library representing 62.5%. Finally, in relation to evaluation, the majority agree that they can differentiate different information sources (71.4%), 69.3% agree that they can assess the credibility of information, 71.4% agree that they can read critically and identify key points, 72.4% agree that they can use appropriate information available and 82.8% disagree that they can cite information collected with appropriate referencing style.

In Ghana, Yeboah (2016) assessed the information literacy skills of students of Opoku Ware and Yaa Asantewaa Girl's Senior High Schools in Kumasi. The study employs a cross-sectional survey research methodology. Questionnaires were distributed to one hundred and seventy (170) students in the two schools which represent 10% of the total population. The researcher found that the majority of the students access the library frequently. In addition, the researcher found that students were a little bit exposed to the use of information technology because they have a laboratory in the school to help them in their information literacy. The researcher also found that the majority of the students from both schools access the Internet. She also found that the majority of the students use textbooks and the internet as the sources of additional information. He further found that students authenticate the sources of information by checking the author's name, publisher, date of publication and qualification of the author. In the evaluating the internet sources, she showed that Yaa Asantewaa uses the popularity of the website, the author of the information and the coverage of the site as against Opoku Ware Senior High that uses the popularity of the website, wider

coverage and how often friends visited the site. Finally, to the barriers to effective use of information, she found that majority indicated lack of internet facilities, overdue library fine, high cost of textbooks, lack of books and unhelpful library staff.

2.5 Theoretical Framework

Various theories have been propounded and used in connection with researches involving the use of computers in accessing information literacy. This study adopted The Big Six Approach proposed by Mike Eisenberg, Doug Johnson and Bob Berkowitz in 2010. This model was adopted for the study because it suggests the process that the students go through in order to use computers or technology to access information literacy. The model is relevant to the study because the Big6 teaches students firstly, how to recognize their information needs, how to meet their needs by going through series of activities or stages in order to solve their problem in the most effective and efficient manner.

In the words of Kumar, Natarajan, and Shankar (2005), Big6 skills help students to achieve information literacy and provide a full understanding beyond merely being able to locate resources within a library. Also, Senior High School uses this model whenever they need information for problem-solving, decision-making as well as for the completion of the task. In short, it is an adaptable and flexible model which can be applied to any information situation being academic or personal (Eisenberg, 2008) and for that matter can be used in the Senior High School for all purposes including solving their problem or make effective decisions concerning the problem based on the availability of information.

On the other hand, when the Big6 is compared to the other models, it is different because it can be used both by students/searchers (to guide their thinking and research activities), and teachers/librarians (to guide their planning and implementation of classroom instructional activities) (Brand-Gruwel, Wopereis, & Walraven 2009). As such the researcher used the Big6 model to investigate the use of computers by students to access information literacy. The Big6 steps are presented in figure 1 below:



Figure 1: Big6 Model (Eisenberg, Johnson, and Berkowitz, 2010).

3. Methodology

This study employed a survey research design specifically the cross-sectional to gather quantitative data. According to Mann (2003), cross-sectional design helps to enrich a study because it helps to study a large number of people within a short period and determine the causes and prevalence of a phenomenon or current situation. The total population of form three students of the Okuapeman Senior High School was six hundred and seventy (670). The form three students were used because it is expected that at their level they are supposed to use the computer to access information literacy and at the same time is supposed to use the computers to access information for their assignments and any project work.

In this study, the stratified sampling procedure specifically the proportionate sampling procedure was used to sample 84 students to participate in the survey. This sampling technique is where each member of the population is first divided into strata (homogenous segments), and then simple random (equal opportunity) is selected from each segment. As such the researcher used 12% for the population that were above 50, and those that were below 50 the researcher used 20%, so that the least population of students that is Agricultural Science was represented so as to have a fair representation when doing analysis. Table 1 shows the make-up of the population and sample size for the study:

Table 1: Population and sample size of form three students of the Okuapeman Senior High School

| Courses | Population | Proportionate Sample size |
|----------------------|-------------------|----------------------------------|
| General Arts | 292 | 35 |
| Business | 109 | 13 |
| General Science | 157 | 19 |
| Home Economics | 66 | 8 |
| Agricultural Science | 16 | 3 |
| Visual Arts | 30 | 6 |
| Total | 670 | 84 |

Source: Okuapeman Senior High School (2018)

4. Findings and Discussion

4.1 Information needs of students

Information needs arise as a result of an unresolved problem. The findings revealed that users' information needs were cognitive. Majority of the respondents (87.5%) use the information for academic work. Others need information for problem solving (35%), personal development (32.5%), career development (28.7%), update on current issues (28.7%), decision making (20.0%), entertainment (17.5%), employment (13.8%) and pleasure (6.3%). The finding implies that students need information for various purposes but the main one is for academic work such as information to do their assignment, dissertation, thesis, project, and presentation. This supports the findings by Adomi (2003), who discovered that students use the Internet to search for materials to complete their assignment and supplements curricular offering. The finding is also in line with Eisenberg (2008), reported that The Big6 Model can be used in the Senior High School for all purposes including solving their problem or to make effective decisions concerning the problem based on the availability of information. It is apparent the students in Senior High School pursue other needs apart from academic needs.

Table 2: Information needs

| N = 80 | | |
|-----------------------------|-----------|------------|
| Responses | Frequency | Percentage |
| Academic work | 70 | 87.5 |
| Problem-solving | 28 | 35.0 |
| Personal development | 26 | 32.5 |
| Career development | 23 | 28.7 |
| Update on the current issue | 21 | 26.3 |
| Decision making | 16 | 20.0 |
| Entertainment | 14 | 17.5 |
| Employment | 11 | 13.8 |
| Pleasure | 5 | 6.3 |

Source: Field survey, 2018

4.1.1 Sources of information task

The study also revealed that 40% of the respondents consult knowledgeable person and their teachers; about 30% and 20% look for information themselves and some consult their classmates/colleagues/friends and approximately 20% and below 10% use library catalogue, family members and school librarian. The finding implies that majority consult knowledgeable people who have well versed in the area of study as well as their teachers to complete their information task. This finding is consistent with the study by Foo et al., (2014), who found out that the human information sources used or consulted by students were peers/classmates, friends and teachers (30%), followed by family (20%), some consult librarians and others (10%). In the Big6 model, Eisenberg, Johnson, and Berkowitz (2010) confirmed that students communicate with teachers regarding their assignments, tasks, and information problem using e-mail, online discussions, and internet among others. There was a follow-up to the library to know why the students do not consult the school librarian for their information sources. It was revealed that the school does not have a trained librarian but national service personnel who do not have knowledge in the library discipline.

Table 3: Sources of information task

| N = 80 | | | | | | | |
|---|---------------------------------------|---------------|-------------------|---------------------|------------------------------|----------------------|-----------------------|
| Sources of information task | Classmates/ Colleagues/ Friends | Teachers | Family Members | School librarian | Knowle- dgeable person | Library catalogue | Information myself |
| Define the research topic | 38 (47.5%) | 44 (55.0%) | 9 (11.3%) | 8 (10.0%) | 59 (73.8%) | 21 (26.3%) | 31 (38.8%) |
| Identification of relevant sources | 23 (28.7%) | 47 (58.8%) | 5 (6.3%) | 8 (10.0%) | 52 (65.0%) | 24 (30.0%) | 35 (43.8%) |
| Formulation of the search strategy and retrieving relevant information | 17 (21.3%) | 32 (40.0%) | 8 (10.0%) | 4 (5.0%) | 42 (52.5%) | 6 (7.5%) | 47 (58.8%) |
| Analyzing the quality and selection of information for use | 22 (27.5%) | 44 (55.0%) | 8 (10.0%) | 5 (6.3%) | 52 (65.0) | 11 (13.8%) | 28 (35.0%) |
| Organization and presentation of answer to research topic | 35 (43.8%) | 40 (50.0%) | 11 (13.8%) | 2 (2.5%) | 41 (51.2%) | 4 (5.0%) | 30 (37.5%) |
| Evaluation of completed process of seeking information | 16 (20.3%) | 53 (67.1%) | 5 (6.3%) | 4 (5.1%) | 46 (58.2%) | 3 (3.8%) | 16 (20.3%) |

Source: Field survey, 2018

4.2 Strategies used to locate and access information

This question was asked to get information from respondents on the strategies used to locate and access information. They were given the options to choose from, a five-point Likert scale ranging from "strongly disagree" to "strongly agree". Reviewing the Likert scores of each arranged in descending order, the strategies mostly used were selecting the most appropriate search tools and use of appropriate keyword(s) (Likert scores 4.19 and 4.03 respectively). The least strategies used by the respondents were defining an appropriate search strategy (Likert score 3.95). It can be concluded that majority of the students use appropriate search tools such as Google. The finding is supported by Adeyemi (2017), who is of the view that the majority (80.7%) agree that the students can use the appropriate keyword(s).

Table 4: Strategies used to locate and access information

| Strategies | No. | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Likert Score |
|--|-----|-------------------|----------|---------|-------|----------------|--------------|
| Select the most appropriate search tools | 80 | 3.8 | 0.0 | 3.8 | 58.8 | 33.8 | 4.19 |
| Use appropriate keyword(s) | 80 | 0.0 | 5.0 | 25.0 | 32.5 | 37.5 | 4.03 |
| Identify appropriate search techniques | 80 | 2.5 | 1.3 | 18.8 | 51.2 | 26.3 | 3.98 |
| Define appropriate search strategy | 80 | 1.3 | 3.8 | 17.5 | 53.8 | 23.8 | 3.95 |

Source: Field survey, 2018

4.2.1 Location and accessibility of information

The findings show the location and accessibility of information of respondents on the Likert scale ranging from 1 to 5. 1= strongly disagree, 2=disagree, 3= neutral, 4= agree and 5= strongly agree. The findings (Table 5) in descending order indicate that majority use Internet and Library (Likert scores 4.50 and 3.53 respectively). The least items used to locate and access information were Boolean operators (2.91), library catalogue (2.91) and teacher's note (2.73). Therefore, it can be concluded that there are many sources of information but the most used were the Internet and Library to locate and access information basically because of its effectiveness and efficiency of use. Also, the finding showed that majority use Internet and Library (Likert scores 4.50 and 3.53). The finding agrees with that of Yeboah (2016), who indicated that majority of the students access the library frequently and at the same time students use textbooks and the internet as the sources of additional information. The finding is inconsistent with that of Adeyemi (2017). The researcher

indicated that the majority use Boolean operators to search for information (57.8%) but do not use the Internet even though some acknowledge that they use the library. It was quite surprising that the students use databases to locate relevant information (Likert score 3.34). This is because according to Tsakonas and Papatheodorou (2006), they indicated that most of the time users are not made aware of the availability of the electronic resources at the lower level; it is only at the university or college that they are made aware of the electronic resources. Therefore, the research followed up and it was revealed that the students use the search engines as databases though there are differences. The findings revealed that students do not use the library catalogue and teacher's note. In relation to the library catalogue, students go to the shelves directly to search for books and the teachers mostly use the textbooks which are also accessible to the students.

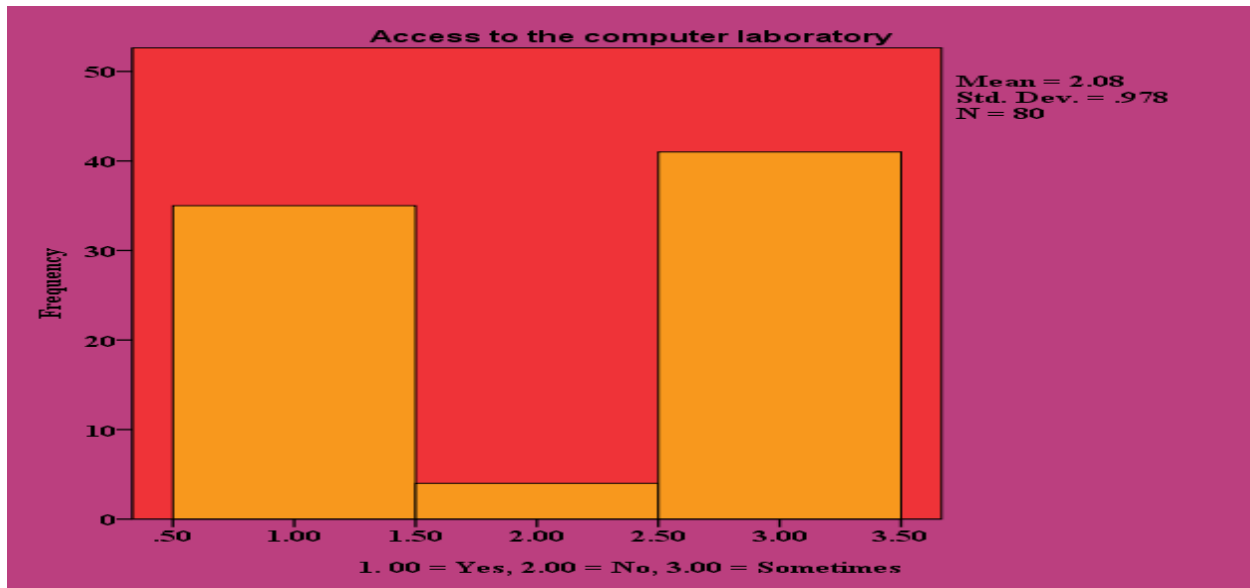
Table 5: Location and accessibility of information

| Locate and access | No. | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Likert Score |
|---|------------|--------------------------|-----------------|----------------|--------------|-----------------------|---------------------|
| Use the Internet | 80 | 1.3 | 2.5 | 2.5 | 32.5 | 61.3 | 4.50 |
| The Library | 80 | 6.3 | 8.8 | 25.0 | 46.3 | 13.8 | 3.53 |
| Use databases to locate relevant information | 80 | 11.3 | 15.0 | 21.3 | 33.8 | 18.8 | 3.34 |
| Newspapers | 80 | 10.0 | 17.5 | 28.7 | 27.5 | 16.3 | 3.23 |
| Boolean operators (AND, OR, NOT) to search | 80 | 16.3 | 23.8 | 23.8 | 25.0 | 11.3 | 2.91 |
| Use the Library catalogue | 80 | 13.8 | 23.8 | 27.5 | 27.5 | 7.5 | 2.91 |
| Teacher's note | 80 | 21.3 | 22.5 | 25.0 | 25.0 | 6.3 | 2.73 |

Source: Field survey, 2018

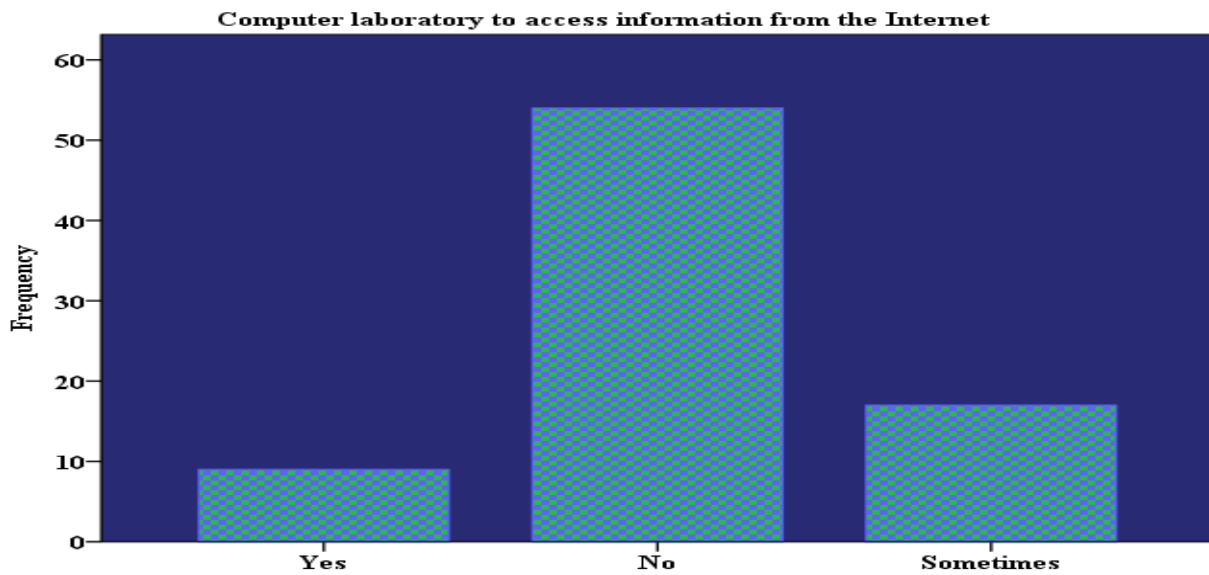
4.2.2 Access to the Computer Laboratory and Internet

This question was asked to know if respondents have access to the Computer Laboratory in their school. From the Figure 2, majority of the respondents (51.2%) said they sometimes have access to the computer laboratory, followed by 35(43.8%) of the respondents said yes and 4(5.0%) said no. Therefore, it can be concluded that not always that the respondents have access to the computers in the Computer Laboratory. This follow-up question was asked to solicit respondents view as to whether they are able to use the Computer Laboratory to access information on the internet. The findings (Figure 3) show that majority of the respondents chose No (67.5%), followed by Sometimes (21.3%) and Yes (11.2%). Therefore, it can be concluded from the findings that even though the Internet is an important tool when seeking information but the majority of the students are not able to use the Computer Laboratory to access information on the internet. The finding is inconsistent with Yeboah (2016), who found that the majority of the students from both schools access the Internet. There is inconsistency in findings because currently, the computers in the laboratory are not connected to the internet even though at first there was connectivity. The students get access to the internet in the library, where they are allowed to use the computers connected to the internet to search for the meaning of words.



Source: Field survey, 2018

Figure 2: Access to the computer laboratory



Source: Field survey, 2018

Figure 3: Access information on the internet

4.3 Evaluation of search results

The researcher asked a question about the assessment or evaluation of their search results. They were given the options to choose from five-point Likert scale ranging from "strongly disagree" to "strongly agree". Reviewing the Likert score in Table 5, the majority of the respondents read critically and identifies the key points (Likert score 4.46). Other were of the view that they check the author's name and popularity, and they also look at the publication date or currency of information to assess the credibility of information (Likert score 3.9 for both). There were few respondents who verify the publisher to assess the credibility of information (Likert score 3.35). This implies that the majority analyze the search result by reading and identifying key points. The findings disagree with the findings of Yeboah (2016). She found that Yaa Asantewaa uses the popularity of the website, the author of the information and the coverage of the site as against Opoku Ware Senior High that uses the popularity of the website, wider coverage and how often friends visited the site.

Table 6: Evaluation of search results

| Evaluation | No. | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Likert Score |
|---|------------|--------------------------|-----------------|----------------|--------------|-----------------------|---------------------|
| Read critically and identify the key points | 80 | 0.0 | 0.0 | 7.5 | 38.8 | 53.8 | 4.46 |
| Differentiate between different information resources | 80 | 2.5 | 1.3 | 11.3 | 48.8 | 36.3 | 4.15 |
| Check the popularity of the website to assess the credibility of information | 80 | 2.5 | 7.5 | 13.8 | 40.0 | 36.3 | 4.00 |
| Checking the authors' name and popularity to assess the credibility of information | 80 | 8.8 | 1.3 | 11.3 | 48.8 | 30.0 | 3.90 |
| Looking at the publication date or currency of information to assess the credibility of information | 80 | 3.8 | 8.8 | 11.3 | 46.3 | 30.0 | 3.90 |
| Wider coverage of the website to assess the credibility of information | 80 | 6.3 | 5.0 | 17.5 | 38.8 | 32.5 | 3.86 |
| Verify the publisher to assess the credibility of information | 80 | 3.8 | 20.0 | 28.7 | 32.5 | 15.0 | 3.35 |

Source: Field survey, 2018

4.4 Challenges to the effective use of information

This question was asked to solicit information from respondents of a list of challenges related to their search, retrieval and use of the information resources. They were given the option to choose from a five-point Likert scale ranging from 1=strongly disagree, 2=disagree, 3=neutral, 4=agree and 5=strongly agree. Reviewing the Likert scores of each challenge in descending order, the most influential challenges were poor attitudes of library staff and lack of time (Likert scores 3.81 and 3.80 respectively). Other challenges were low internet speed and a long time before results are released (Likert scores 3.60 and 3.68 respectively). The least challenges were lack of skills to evaluate information and ignorance (Likert scores 2.50 and 1.93 respectively). Therefore, it can be established that the challenges encounter are most human-induced such as poor attitudes of library staff. The findings from this study corroborate from a study conducted by Enakrire and Onyenania (2007), they outline the following challenges as hampering students' access to electronic resources: financial constraints, lack of formal training on how to browse the internet, little or lack of knowledge of websites/search engines in searching for information on the internet, slow speed of the students in typing, disinterestedness or lack of interest on the part of some of the students, lack of knowledge on how to use computers effectively, and lack of time in searching for information on the internet. The library must employ the effort of qualified librarian assisted by national service personnel and train them to curb the poor attitude of the staff.

Table 7: Challenges to the effective use of information

| Challenges | No. | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree | Likert Score |
|--|------------|--------------------------|-----------------|----------------|--------------|-----------------------|---------------------|
| Poor attitudes of library staff | 80 | 12.5 | 8.8 | 10.0 | 22.5 | 46.3 | 3.81 |
| Lack of time | 80 | 6.3 | 11.3 | 11.3 | 38.8 | 32.5 | 3.80 |
| Unstable internet access | 80 | 7.5 | 8.8 | 12.5 | 40.0 | 31.3 | 3.79 |
| High internet cost | 80 | 7.5 | 6.3 | 22.5 | 28.7 | 35.0 | 3.78 |
| Long time before results are released | 80 | 8.8 | 7.5 | 25.0 | 25.0 | 33.8 | 3.68 |
| Low internet speed | 80 | 10.0 | 10.0 | 15.0 | 40.0 | 25.0 | 3.60 |

| | | | | | | | |
|--|----|------|------|------|------|------|-------------|
| Difficulty in locating relevant information | 80 | 10.0 | 13.8 | 16.3 | 37.5 | 22.5 | 3.49 |
| Too much of information | 80 | 17.5 | 12.5 | 10.0 | 35.0 | 25.0 | 3.38 |
| Lack of knowledge of materials available | 80 | 11.3 | 23.8 | 12.5 | 32.5 | 20.0 | 3.26 |
| Irregular power supply | 80 | 13.8 | 13.8 | 28.7 | 22.5 | 21.3 | 3.24 |
| Lack of access to a computer | 80 | 22.5 | 15.0 | 20.0 | 25.0 | 17.5 | 3.00 |
| Lack of searching skills | 80 | 33.8 | 15.0 | 11.3 | 27.5 | 12.5 | 2.70 |
| Lack of skills to evaluate information | 80 | 23.8 | 31.3 | 23.8 | 13.8 | 7.5 | 2.50 |
| Ignorance (lack information on information literacy importance) | 80 | 50.0 | 25.0 | 13.8 | 5.0 | 6.3 | 1.93 |

Source: Field survey, 2018

5. Conclusion

The findings revealed that students need information mainly for academic work. They consult a knowledgeable person and teachers. They select the most appropriate search tools and also read critically and identify the key points. In the effective use of information, students face challenges such as poor attitudes of library staff and lack of time and therefore the school authorities must address these issues so that students can use computers to access information literacy.

6. Recommendations

The following were recommended based on the findings:

I. Trained school librarian

The findings showed that students do not consult the personnel in the library and also the major challenge is the poor attitude of the staff. There is a need for the school to employ a

trained professional librarian. The person must be knowledgeable and must be trained in good interpersonal skills so that the librarian can be approachable.

II. Internet connectivity

The findings revealed that now the students do not have access to the internet on campus even though they used the internet before to locate and access information. The school authorities have to find sources of fund to take care of the challenges of high internet cost thereby installing internet connectivity again.

III. Allocation of time

The finding revealed a lack of time. Aside the break-time given to students to use the Library and class time to use the computer laboratory, the school authorities must allocate time on the time-table so that the students can go to the library and the computer laboratory.

IV. Improving searching skills

The findings revealed that the students use the Internet and they visit Google website when they are on the internet. Students, therefore, need to be trained by the librarian on the requisite skills (including the use of Boolean operators) needed to search, evaluate and use information.

References

- Adeloye, A. (2000). The Information Market in Nigeria. *Journal of Information Science*, 26(4), 282-285.
- Adeyemi, I. O. (2017). An Empirical Study on the Traits of Information Literacy Level among Senior Secondary Students in Ilorin, Nigeria. *Library Philosophy & Practice*. Retrieved March 30, 2018, from <https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=4579&context=libphilprac>
- Adomi, E. E. (2003). A Survey of Café in Delta State, Nigeria. *The Electronic Library*, 21(5), 489-491.
- Adomi, E. E., Omodeko, F. S., & Otolu, P. U. (2004). The use of cybercafé at Delta State University Abraka, Nigeria. *Library Hi Tech*, 22(4), 383-388.
- American Library Association (2000). *Information literacy competency standards for higher education*. Retrieved March 30, 2018, from <https://repository.arizona.edu/handle/10150/105645>
- Brand-Gruwel, S., Wopereis, I., & Walraven, A. (2009). A descriptive model of information problem solving while using internet. *Computers & Education*, 53(4), 1207–1217.
- Cooney, M., & Hiris, L. (2003). Integrating information literacy and its assessment into a graduate business course: A collaborative framework. *Research Strategies*, 19(3/4), 213-232.
- Dadzie, P. (2010). *Information sources*. Legon: Institute of Continuing and Distance Education.
- Eisenberg, M. B. (2008). Information literacy: Essential skills for the information age. *DESIDOC Journal of Library & Information Technology*, 28(2), 39–47.
- Eisenberg, M., Johnson, D., & Berkowitz, B. (2010). Information, communications, and technology (ICT) skills curriculum based on the Big6 skills approach to information problem-solving. *Library Media Connection*, 28(6), 24-27.
- Elaturoti, D. F. (2006). Stakeholders in Nigeria Education as facilitators in effective school library service development. *Nigerian school Library Journal*, 5(2), 57-65.

- Emmons, M., & Martin, W. (2002). Engaging conversation: evaluating the contributions of library instruction to the quality of student research. *College and research libraries*, 63(6), 545–560.
- Enakrire, T. R., & Onyanania, O. G. (2007). Causes inhibiting the growth or development of the information transfer in Africa: a contextual treatment. *Library HI – Tech News*, 24(4), 20-28.
- Farmer, L. S. J., & Henri, J. (2008). *Information Literacy Assessment in K–12 Settings*. Toronto: The Scarecrow Press.
- Foo, S., Majid, S., Azura M. I., Zhang, X., Chang, Y. K., Luyt, B., & Theng, Y. L. (2014). Information literacy skills of secondary school students in Singapore. *Aslib Journal of Information Management*, 66(1), 54-76.
- Frailon, J., Schulz, W., & Ainley, J. (2013). *International Computer and Information Literacy Study assessment framework*. Amsterdam, the Netherlands: International Association for the Evaluation of Educational Achievement (IEA).
- Gross, M., & Latham, D. (2007). Attaining information literacy: An investigation of the relationship between skill level, self-estimates of skill, and library anxiety. *Library & Information Science Research*, 29(3), 332-353.
- International Reading Association. (2002). *Integrating literacy and technology in the curriculum: A position statement of the International Reading Association*. Newark, DE: International Reading Association.
- Kumar, M., Natarajan, U., & Shankar, S. (2005). Information literacy: A key competency to students' learning. *Malaysian Online Journal of Instructional Technology*, 2(2), 50–60.
- Lombardo, S. V., & Miree, C. (2003). Caught in the web: The impact of library instruction on business students perceptions and use of print and online resources. *College and Research Libraries*, 64(1), 6 - 22.

- Madu, E. C. (2013). *Influence of information literacy on academic staff productivity in Universities in North Central Geo-Political Zone of Nigeria*. (Unpublished Doctoral dissertation). University of Nigeria, Usukka
- Majka, D. R. (2001). The conqueror bookworm. *American Libraries*, 32(6), 60 – 63.
- Mann, C. J. (2003). Observational research methods. Research design II: Cohort, cross sectional, and case-control studies. *Emergency medicine journal*, 20(1), 54-60.
- Maughan, P. D. (2001). Assessing information literacy among undergraduates: a discussion of the literature and the University of California-Berkeley assessment experience. *College and Research Libraries*, 62(1), 71 – 85.
- McGarry K. J. (2004). *The changing context of information*. London: Clive Bingley.
- Miranda, S. V., & Tarapanoff, K. (2008). Information needs and information competencies: A case study of the off-site supervision of financial institutions in Brazil. *Information Research*, 13(2), 1-24.
- Okuapeman Senior High School (2018). *Student Database record* (population), Akropong.
- Oluwaniyi, S. A. (2015). Preservation of information resources in selected school libraries in Ibadan North Local Government Area of Oyo State, Nigeria. *Library Philosophy and Practice*. Retrieved January 10, 2018, from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=3193&context=libphilprac>
- Patitungkho, K., & Deshpande, N. J. (2005). Information seeking behaviour of faculty members of Rajabhat Universities in Bangkok. *Webology*, 2(4), 25-33.
- Rowley, J., & Hartley, R. (2008). *Organizing Knowledge: An introduction to managing access to information* (4th ed.). Aldershot: Ashgate.
- Song, J., & Khong, P. W. (2001). Empirical study on effectiveness of E-Survey method in Web-based environment. *International Journal of the Computer, the Internet and Management*, 9(2), 40-51.
- Tsakonas, G., & Papatheodorou, C. (2006). Analyzing and evaluating usefulness and usability in

electronic information services. *Journal of Information Science*, 32(5), 400 - 419.

UNESCO. (2005). *The Alexandria proclamation on information literacy and lifelong learning*.

Paper presented at the High-Level Colloquium on Information Literacy and Lifelong Learning, in Alexandria, Egypt.

Vakkari, P., Pennanen, M., & Serola, S. (2003). Changes of search terms and tactics while writing a research proposal: A longitudinal case study. *Information Processing & Management*, 39(3), 445-463.

Yeboah, P. (2016). *Assessment of information literacy skills among students of Opoku Ware and Yaa Asantewaa Girl's Senior High Schools in Kumasi*. (Unpublished MPhil thesis). University of Ghana, Legon.