

UNIVERSITY OF GHANA, LEGON
DEPARTMENT OF INFORMATION STUDIES

**ASSESSMENT OF INFORMATION LITERACY SKILLS AMONG
STUDENTS OF OPOKU WARE AND YAA ASANTEWAA
GIRLS' SENIOR HIGH SCHOOLS IN KUMASI**

BY

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DECLARATION

I do hereby declare that, with the exception of references I made to other people's works which are duly acknowledged, this thesis is the result of my own research work under the supervision of Prof. Mrs. Perpetua S. Dadzie and Prof. Harry Akussah and has not been submitted elsewhere for another degree.



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DEDICATION

This work is dedicated to my Mother for her immense support throughout this programme and also to the memory of my dear father Mr. Ben. Obeng-Yeboah who passed on to eternity on 19th May 2015. Paapa, Rest in Perfect Peace.



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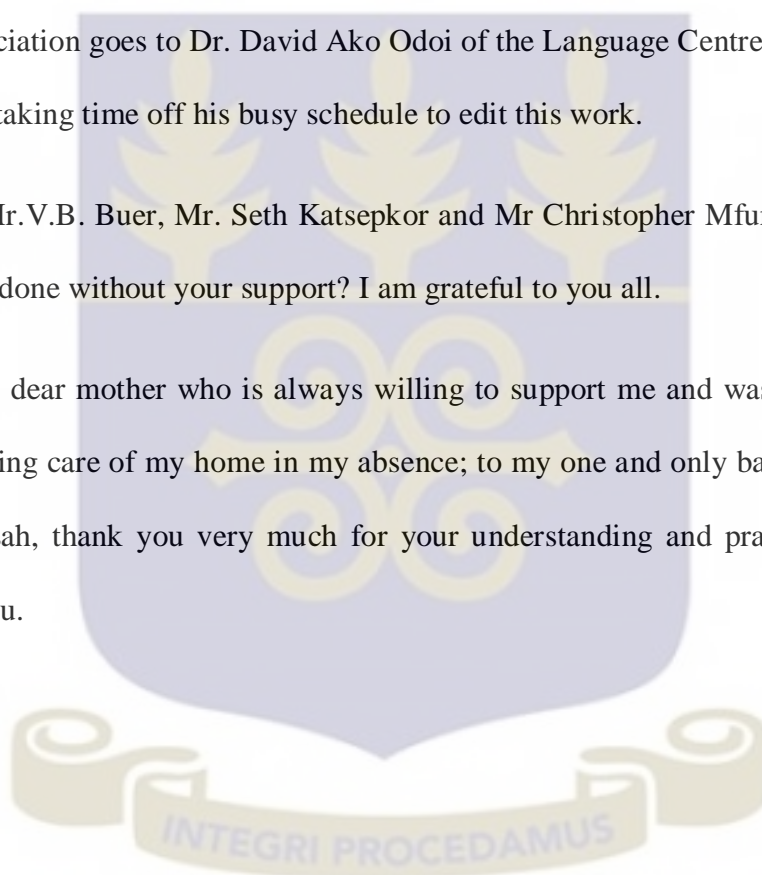


TABLE OF CONTENTS

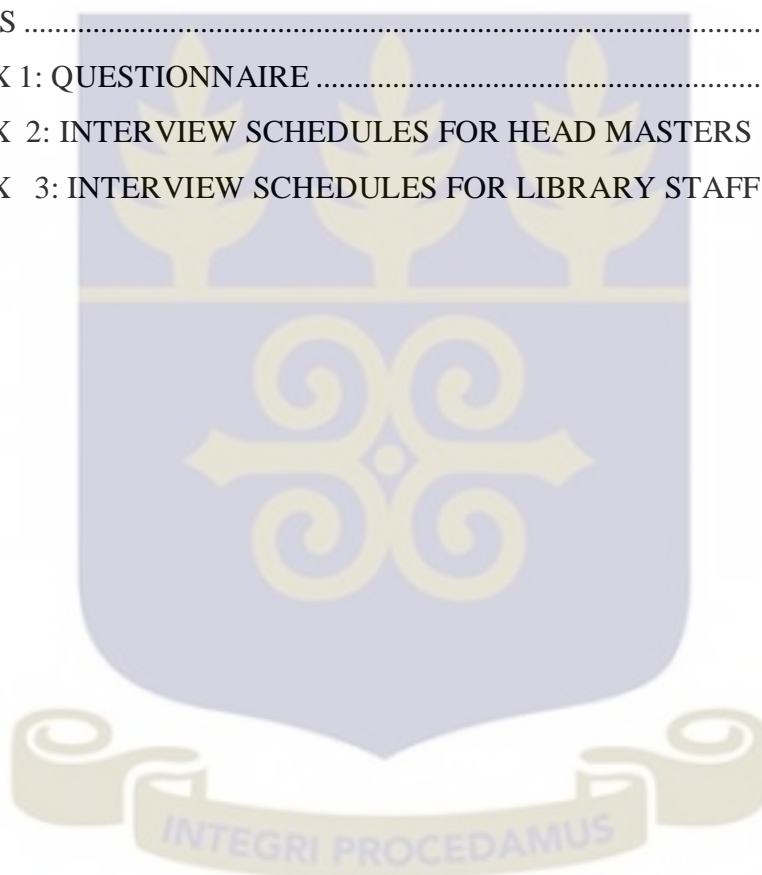
Content	Page
DECLARATION.....	i
DEDICATION.....	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLES.....	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS	xi
ABSTRACT.....	xii
CHAPTER ONE	1
INTRODUCTION	1
1.1 Background of the Study.....	1
1.1.1 Overview of the Study Areas	6
1.1.2 Brief History of Opoku Ware Senior High School.....	6
1.1.3 Brief History of Yaa Asantewaa Girls’ Senior High Schools.....	8
1.2 Problem Statement.....	9
1.3 Purpose of the Study.....	11
1.4 Objectives.....	11
1.5 Research Questions	11
1.6 Scope and Limitation of the study	12
1.7 Theoretical Framework	12
1.8 Significance of the study	15
1.9 Organisation of the study	16
REFERENCES	17
CHAPTER TWO	21
LITERATURE REVIEW	21
2.1 Introduction.....	21
2.2 History and Development of Information Literacy	22
2.3 Information Literacy in Developed Countries	24
2.4 Information Literacy in Developing Countries.....	27
2.4.1 Ghanaian view of Information Literacy	31

2.5 Access to Information by Secondary School Students.....	33
2.5.1 Use of Information by students.....	36
2.6 Evaluation of Information Sources by second cycle schools.....	38
2.7 Ethical and Legal implication of Information Use	41
2.8 Barriers to information use	45
2.9 Challenges in the Integration of Information Literacy in Senior High School.....	48
Curriculum	48
2.10 Summary of Review	50
REFERENCES	52
CHAPTER THREE	64
METHODOLOGY	64
3.1 Introduction.....	64
3.2 Research Design	64
3.3 Selection of Cases.....	65
3.4 Selection of Subjects	66
3.4.1. Population	66
3.4.2 Sample Size.....	67
3.4.3 Sampling Technique.....	68
3.4.4 Data Collection Instruments.....	70
3.4.4.1 Questionnaire	70
3.4.4.2 Pre- Testing.....	72
3.4.4.3 Interviews.....	72
3.4.4.4 Mode of Data Collection	74
3.4.4.5 Sources of data.....	74
3.5 Ethical Considerations.....	75
3.6 Data Analysis and Presentation	75
REFERENCES	76
CHAPTER FOUR	78
ANALYSIS OF DATA AND FINDINGS	78
4.1. Introduction.....	78
4.2 Background of the respondents	78
4.2.1 Age of Respondents.....	78
4.2.2 Program of study.....	79

4.3 Students Access and Use of Information	79
4.3.1 Frequency of Visit to the Library	80
4.3.2 Purpose of Visit	80
4.3.3 Library Periods on Timetable	81
4.3.4 Library Instruction or Orientation	82
4.3.5 Kind of Library Orientation or Instruction.....	83
4.3.5.1 Take care of books.....	83
4.3.5.2 Library Etiquette.....	83
4.3.5.3 Searching for information	84
4.3.5.4 Previous knowledge.....	84
4.3.5.5 Through consultation.....	84
4.3.5.6 The Internet and textbooks.....	85
4.3.5.7 Intuition.....	85
4.3.6 Availability of Information Sources in the Library	85
4.3.7 Knowledge of the sources in finding information	86
4.3.7.1 General Background Information	86
4.3.7.2 Names and addresses of people and places.....	87
4.3.7.3 Meaning of a Word.....	88
4.3.7.4 Miscellaneous Information	88
4.4 Availability of Computer Laboratory	89
4.5 Computer Connected to the Internet.....	90
4.6 Accessing information from the Internet	91
4.7 What they use the Internet for.....	91
4.8 Most Visited Websites	92
4.9 Evaluation of Information Sources.....	93
4.9.1 Source of Additional Information.....	94
4.9.2 Sources Authentication.....	94
4.9.3 Determining a Good Sources of information.....	95
4.9.4 Information on a Website	97
4.10 Legal and ethical use of information.....	98
4.10.1 Knowledge of the Word Plagiarism	98
4.10.2 The meaning of plagiarism	99
4.10.3 Acknowledgement of Authors of Books.....	101

4.10.4 Knowledge of the term Copyright	103
4.10.5 Photocopying a whole Book	105
4.10.6 Reasons for Photocopying.....	106
4.11 Barriers to effective use of information	107
4.11.1 Problems encountered in accessing information	107
4.12 Responses from Interviews with the library staff.....	108
4.12.1 Background of Respondents	108
4.12.2 Kinds of Information Resources in the Library	109
4.12.3 Formal Training in Librarianship	109
4.12.4 Workshop, Seminar or Training on Information Management	109
4.12.5 Library Orientation or Instructions to Students	110
4.12.6 Frequency of Orientation or Instructions to Students	110
4.12.7 Materials in the Library	111
4.12.8 Library Automation and Internet Connectivity	112
4.13 Responses from Interviews with the Head Masters	112
4.13.1 Library Automation and Internet Connectivity	113
4.13.2 Challenges in Accessing Sources of Information	114
4.13.3 Suggestion to Information Literacy Program	114
4.13.4 Head Master’s Recommendations	115
CHAPTER FIVE	116
DISCUSSION OF FINDINGS	116
5.1 Introduction.....	116
5.2 Requisite skills to access and use the needed information effectively by students. 116	
5.2.1 Availability of Computer Laboratory and the use of the Internet	120
5.3 Evaluation of information Sources	122
5.4 Legal and Ethical Implications of Information Use	125
5.5 Barriers to effective use of information	128
5.6 Formal Training in Librarianship	129
REFERENCES	130
CHAPTER SIX.....	133
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS.....	133
6.1 Introduction.....	133
6.2 Summary of the major findings	133

6.2.1 Access and Use of information	134
6.2.2 Students evaluation of information sources	134
6.2.3 Legal and ethical use of information	135
6.2.4 Barriers to information use.....	135
6.3 Conclusion	136
6.4 Recommendations	136
Future Recommendation.....	141
REFERENCES	143
BIBLIOGRAPHY	144
APPENDICES	162
APPENDIX 1: QUESTIONNAIRE	162
APPENDIX 2: INTERVIEW SCHEDULES FOR HEAD MASTERS	167
APPENDIX 3: INTERVIEW SCHEDULES FOR LIBRARY STAFF	169



LIST OF TABLES

Table 3.1: Population.....	67
Table 3.2: Sample Size for Students.....	70
Table 4.1: Age of Respondents.....	78
Table 4.2: Program of Study	79
Table 4.3: Frequency of Visit to the Library	80
Table 4.4: Purpose of Visit.....	81
Table 4.5: Availability of Library Periods on Timetable	81
Table 4.6: Library Instructions or Orientation	82
Table 4.7: Information Sources Available In the Library	86
Table 4.8a: General Background Information	87
Table 4.8b: Names and Addresses of People, Places.....	87
Table 4.8c: Meaning of a Word.....	88
Table 4.8d: Miscellaneous Information.....	89
Table 4.9: Availability of Computer Laboratory	89
Table 4.10: Computer Connected To the Internet	90
Table 4.11: Access Information from the Internet.....	91
Table 4.12: What they use the Internet for.....	92
Table 4.13: Most Visited Websites.....	93
Table 4.14: Sources of Additional Information	94
Table 4.15: Sources Authentication.....	95
Table 4. 16: Determining a Good Source.....	96
Table 4.17: Information on Website	97
Table 4.18: Heard Of Plagiarism	99
Table 4.19: Acknowledgement of Authors	101
Table 4.20: Knowledge of the Term Copyright.....	103
Table 4.21: Photocopying a Whole Book	105
Table 4.22: Reason for Photocopying	106
Table 4.23: Problem Encountered In Accessing Information.....	107

LIST OF FIGURES

Figure 6.1: POY's IL Model for SHS Students in Ghana..... 140



LIST OF ABBREVIATIONS

ACRL	Association of Colleges and Research Libraries
ALA	American Library Association
CILIP	Chartered Institutions of Library and Information Professional
FAIFE	Free Access to Information and Freedom of Expression
GES	Ghana Education Service
ICT	Information and Communication Technology
IE	Information Ethics
IL	Information Literacy
ILG	Information Literacy Guidelines
KNUST	Kwame Nkrumah University of Science and Technology
MOE	Ministry of Education
NFIL	National Forum on Information Literacy
OWSHS	Opoku Ware Senior High School
SCANUL-ECS	Standing Conference of African National and University Libraries in Eastern, Central and Southern Africa.
SHS	Senior High School
UCC	University of Cape Coast
UDS	University of Development Studies
UEW	University of Education, Winneba
UG	University of Ghana
UK	United Kingdom
UNUDHR	United Nations Universal Declaration of Human Rights
YAGSHS-	YaaAsantewaa Girls Senior High School

ABSTRACT

There has been a global acceptance of the need for students at all levels of education to acquire Information Literacy skills. Currently, there has been proliferation of information sources as information comes in various forms and it is prudent for every individual and especially students to be wise information users to assume greater control of their own learning. This study assesses the information literacy skills of students of Opoku Ware and Yaa Asantewaa Girls' Senior High Schools in Kumasi. The main objectives of the study are to determine the students skills to access information; gather evidence on how students evaluate information; ascertain the students awareness of legal and ethical implication of information usage and finally to investigate barriers to access information by the students. The study employs the 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. An interview was also conducted with the heads of the two schools and with the library staff of the two schools. A total of four interviewees were used. Data was analyzed with the use of the Statistical Package for Social Sciences (SPSS) in line with the objectives of the study. The findings of the study show that though both schools have libraries, they are manned by unprofessional staff that do not possess the skills to organize orientation and user education and as well teach the students to acquire the skills of Information Literacy. Further revelations show students' lack of understanding of how to evaluate information from both print and online sources. Furthermore, only a few students from both schools were aware of the issues of legal and ethical surrounding the use of information. Some challenges to accessing information by students are the unavailability of the internet services on campus especially as in the case of Opoku Ware School and the high cost of textbooks. The study therefore recommends among other things, the incorporation of Information Literacy Program into Senior High School Students (SHS) Curriculum, provision of functional Information and Communication Technology (ICT) laboratories with Internet connectivity, employment of trained library staff and the collaboration between librarians, teaching staff and the major stakeholders in the educational sector in Ghana to promote Information Literacy programs.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The beginning of the 21st Century has been termed the ‘Information Age’ because of the explosion and proliferation of information output and information sources (Bruce, 2002). Information is in abundance everywhere and as a result of this situation, individuals and for that matter students at all levels are confronted with different information decisions in their studies as well as their field of work. The amount of information available creates difficulties in capturing, processing and storage of information and this kind of situation affects decision making thereby posing special challenges in “evaluating, understanding, and using of information in an ethical and legal manner” (Bundy, 2004).

It has become necessary that users of information are outfitted with suitable capacities of Information Literacy skills to help determine and also to differentiate good information from negative ones. It is therefore not surprising that as far back as the 1980s, researchers and scholars have embraced the significance and requirement for Information Literacy (IL) keeping in mind the end goal to manage the exponentially expanding surge of information that the individual is faced with every day (Breivik, 1985; Hubbard, 1987; Mancall et al., 1986).

Information literacy is a natural extension of the concept of literacy in our information society. Information literacy education is the catalyst required to transform the information society of today into the learning society of tomorrow (Bruce, 2004). The idea of Information Literacy, emerging with the advent of information technologies in the early 1970s, has grown, taken shape and has been strengthened to become recognized as the

critical literacy for the twenty-first century. Sometimes it is interpreted as one of a number of literacies. Information Literacy (IL) is also described as the overarching literacy essential for 21st century living. Today, IL is inextricably associated with information practices and critical thinking in the Information and Communication Technology (ICT) environment. In an information society, where access to information and critical evaluation of that information is central to economic and personal well-being, Information Literacy (IL) skills are as essential as basic reading and writing (Heidi and Barker, 2009). Information Literacy therefore forms the basis for a lifelong learning and is common to all disciplines, all learning environments, and to all levels of education.

The National Forum on IL at its conference of 2015, defined 'Information Literacy' as a constellation of competencies revolving around information research, use, and practice across all occupations and professions. It is the foundation for effective, lifelong learning practice, personal, and professional empowerment. This implies that information literacy skill is a concept that must be integrated throughout all educational, governmental, and workforce development programs. One of the earliest definitions of Information Literacy came from the American Library Association (ALA). It states that Information literacy (IL) is the ability to locate, access, search, evaluate and use information in various contexts (ALA, 1989). For instance, The Chartered Institute of Library and Information Professionals (CILIP) (2004), indicates that Information literacy is knowing when and why one needs information, where to discover it, and how to assess, utilize and impart it in a moral way. Furthermore, the Association of College and Research Libraries (ACRL) (2010) defines Information literacy as a set of characteristics that transform an ordinary student into a "wise information consumer" and "lifelong learner".

According to the Association of College and Research Libraries (ACRL) (2010), the definition of information literacy includes understanding that an information need exists, as well as finding, evaluating and using information to meet that need. For instance, educators and educational researchers increasingly emphasized the importance of establishing authentic assessment, resource-based learning and creative and critical thinking approaches in the school curriculum (Herrington and Herrington, 2005).

Students all over the world are confronted with an avalanche of information from different kinds of sources making it very difficult to verify their authenticity. Often, young students need to be able to identify what is relevant for learning, life and work. It has become increasingly clear that students cannot learn everything they need to know in their field of study in a few years of college and need to be equipped with the necessary information and skills to sift through a lot of information available to get the best. Information Literacy affords them the critical skills necessary to become an independent lifelong learner (ACRL, 2011).

It has been asserted that children and young people not only need to be able to read for information; they also need to be able to work out what trust they should place on the information and to identify when, how and what people are aiming at to persuade or influence them (*Curriculum for Excellence*, 2009). Information Literacy is important for today's learners; it promotes problem-solving approaches and thinking skills: asking questions seeking answers, finding information, forming opinions, evaluating sources and making decisions, fostering successful learners, effective contributors, confident individuals and responsible citizens.

Traditionally, schools have provided the setting where individuals, “learn how to learn”. Major learning competencies include formulating questions, accessing potential sources of

information, evaluating the information for accuracy, organizing the information, and finally, applying the information to answer the original questions- the last and most valuable step in the process. It is not just finding the information, but the use of it that motivates the learner. Because of information smog which has posed serious difficulties for information users, it is therefore important that, students of Senior High Schools (SHS) are also equipped with necessary skills that will enable them find the appropriate sources of information, evaluate the information and take into consideration the legal and ethical issues accompanied the use of information. For students, being information literate is necessary to enable them effectively sieve through and identify relevant and reliable information that they get through the internet, television, newspapers, other sources and friends for their school related work. Rabin and Cardwell (2000) showed that students who had taken a course on basic information literacy aspect know more than those who had not taken at all. Students who had a library introduction and direction session were more mindful of library services than the individuals who had not. According to Candy (2002), Information Literacy enables learners to master content and extend their investigations, become more self-directed, and assume greater control over their own learning.

American Association of Higher Education and Council of Independent College, the Information Literacy Competency Standards for Higher Education in February of 2004, The Standards dictate that an information literate person is able to:

1. Determine the nature and extent of information needed.
2. Access the needed information effectively and efficiently.
3. Evaluate information and its sources critically and incorporate selected information into his or her knowledge base and value system.
4. Use information effectively to accomplish a specific purpose.

5. Understand many of the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

Developing Information Literacy skills has been mandated by school curricula in some countries, but there is uncertainty whether those mandates lead to demonstrable skill development. Such skill development cannot be left solely to be handled by post-secondary educational institutions because not all citizens attend these institutions, nor do all students in these institutions receive effective instruction. It is therefore important to ensure that students leaving the secondary school level are equipped with basic information literacy skills.

Senior High School students in Ghana, like other students around the world, are very much confronted with a lot of information because of this era of information explosion. Too often, it is assumed that as students perform assignments, write papers and read textbooks, and access information online they are gaining sufficient 'Information Literacy Skills', but, this is not so. Information Literacy may be introduced but what is needed is a parallel curriculum in Information Literacy forming a strong foundation for a college education. Gaining skills in Information Literacy multiplies the opportunities for students' self-directed learning, as they engage in using a wide variety of information sources to expand their knowledge, ask informed questions, and sharpen their critical thinking for further self-directed learning.

Achieving competency in Information Literacy requires an understanding that this cluster of abilities is not extraneous to the curriculum but is woven into the curriculum's content, structure, and sequence. This curricular integration also affords many possibilities for furthering the influence and impact of such student-centred

teaching methods as a part of problem-based learning, evidence-based learning, and inquiry learning (ACRL, 2000)

Through the researcher's personal observations and interactions with some teachers and students of Prempeh College and Saint Louis Senior high schools, both in Kumasi, it was found that, most of SHS students in the Kumasi Metropolis do not understand IL and therefore do not possess adequate information literacy skills. Based on this prevailing situation, the researcher sought to assess the information literacy levels among students of Opoku Ware and Yaa Asantewaa Girls' senior high schools in Kumasi which are acclaimed to be among the best senior high schools in the Ashanti Region by the Ghana Education Service rankings of senior high schools in Ghana.

1.1.1 Overview of the Study Areas

Kumasi is the capital city of the Ashanti Region, a very important and historical centre of Ghana. Tradition is held very high in Kumasi and blends very well with modernity. According to the 2010 report of the Ghana Statistical Services, Kumasi has a population of Two Million, thirty five Thousand and sixty four (2, 035,064) (Ghana Statistical Services, 2012) Kumasi is also known for its numerous educational centres including Thirty- four senior high schools. Two of the oldest schools which fall within the category 'A' schools in the metropolis were used for this study. The schools are Opoku Ware School and Yaa Asantewaa Girls Senior High Schools.

1.1.2 Brief History of Opoku Ware Senior High School

Opoku Ware Senior High School was established in 1952 as one of the first Catholic schools in Ghana. Although, it is the second boy's school in Ghana, it was the first boy's school in the Ashanti Kingdom. Until its establishment, youth from the Asante Kingdom

and the Northern part of Ghana who wanted Catholic education had to travel south across the Pra River to attend secondary schools like Saint Augustine College or Holy Child College, both in Cape Coast.

Opoku Ware Senior High School was named after the Asante King, Opoku Ware I and the students are known collectively as Akatakyie, an Asante word meaning “Conquering Heroes”. The School which is often referred to as OWASS was originally called Yaa Asantewaa College, subsequently became Opoku Ware, two weeks after the school opened.

Opoku Ware School is located in Fankyenebra, near Santasi, along the Kumasi- Obuasi road. The patron saint of the school is Saint Aquinas and their motto is “Deus Lus Scientiae”, meaning “God is the light of knowledge”. OWASS, as the school is popularly called, offers four programs including General Arts, Science, Technical and Visual Art. There are over sixty teachers in the school who handle the various subjects taught in the school. The late Rev, Father P.R. Burgess, an Oxford University graduate was the first headmaster of the school.

By 1955, the school had four hundred and fifty (450) students and the sixth form was established in 1958, and it provided courses in both Sciences and Arts. Now, the student population has significantly risen to over one thousand, eight hundred. The school has won the Brilliant Science and Maths for four consecutive times and in 1995, they were runners up. One unique system about Opoku Ware School is their student identification and numbering system which was a legacy of the first Headmaster Rev.Fr. Burgess. For easy identification purposes, he decided to assign a letter of the alphabet to each year group and then combine it with a sequential number to each student who gained admission and this proud initiation and tradition continues till today. According to a survey conducted by

Serve Africa in 2013, OWASS was ranked the fourth best among top ten senior high schools in Ghana. Rev. Fr. Matthew Oppong Mensah is the current Headmaster of the school; he was appointed in 2011 (Source: www.opokuware.edu.gh.)

1.1.3 Brief History of Yaa Asantewaa Girls' Senior High Schools

Yaa Asantewaa Girls Senior High School is one of the few girls' schools in Ashanti Region of Ghana. The school was established in Kumasi in 1960 by the first President of Ghana.

The school was named after the legendary Yaa Asantewaa, the great historical revolutionary heroine and Queen Mother of Ejisu, in the Ashanti Region of Ghana who led the war against British Colonialists. This short, smallish lady boldly led the Ashanti Kings in a war against the British colonialists in the year 1900. The School has a population of about Two Thousand five Hundred girls.

Yaa Asantewaa, the legendary heroine, might not have won that war physically, but her spirit and vision continue to inspire all Ghanaians generally, and all women and the girl-child in particular. The school offers programs such as General Arts, General Science, Business, Home Economics and Visual Arts. The school can boast of teaching staff strength of eighty one (81) handling the various programmes offered in the school. Yaa Asantewaa Girls' Senior High School popularly known as YAGSHS is well endowed with facilities such as an Administration block, an Assembly hall that has the capacity to accommodate two thousand (2,000) students. The School also has a library named after Otumfuo Osei Tutu II, a Computer laboratory, General stores, a Science Resource Centre which contains a Biology, Chemistry, and Physics Laboratories. There are also three different storey- building classroom blocks, a Home science department, a Dining Hall and Dormitories.

According to the school's history and current vision the fight is no more against the British colonialists but an academic battlefield for excellence of women.

For almost half a century, Yaa Asantewaa Girls' Senior High school has turned out thousands of educated and well informed women who are in responsible positions in government, administration and business circles.

The school has recorded consistently excellent results, and they are not just complacent with the status quo. (Source: www.yagshs.edu.gh).

1.2 Problem Statement

Students and for that matter individuals all around the globe are confronted with abundant and varied information choices. Most information, especially on the Internet come unfiltered or uncensored posing a lot of challenges. Information Literacy (IL) is one of the solutions to information explosion, as it allows individuals to cope with this situation by giving the skills to know when information is needed, where it can be located, how to evaluate and use it effectively and efficiently. Information Literacy (IL) enables a student develop his or her knowledge and potentials, achieve their goals and also participate fully in the wider society. Information Literacy (IL) skills have a broader implication that enables the students to develop learning capabilities common to all disciplines, all learning environments, and to all levels of education.

Although Opoku Ware and Yaa Asantewaa schools to some extent have well stocked libraries, it is not clear whether students of these two schools have the necessary skills to locate, evaluate and use these available information resources effectively. Additionally, "digital natives", that is the youth of today, according to (Averill & Lewis, 2012) lack the ability to effectively use the vast array of information sources now available to them and

rely heavily on search engines and some questionable tertiary sources such as Wikipedia. “In short, the “digital natives” have demonstrated to be digitally illiterate and this study is yet to establish whether the characteristics of “digital natives” worldwide fit the description of students of Opoku Ware and Yaa Asantewaa.

The uncertainty of the capability of the library staff of both schools who are supposed to be the torch bearers of information Literacy in these schools to teach users how to find information in both traditional libraries and online is also a problem. Scholz-Crane (1998) stressed that, the library staff has the duty to teach students the skills necessary for effective evaluation of information sources. Furthermore, Brabazon, (2008) confirmed this assertion by stating that, librarians have a role to play when it comes to IL to direct students to follow the best pathway of seeking information. According to Rehman & Alfaresi (2009), IL skills cannot be developed in isolation but there is the need to examine whether the school libraries are well stocked, organized and adequately prepared to assume the role of teaching which include, laboratories and other library resources, library services and library personnel. Again, there is not much literature available on IL among students in senior high schools in Ghana and also the fact that the researcher has not seen or yet to spot any research done on IL for SHS students in Ghana were that major factors which were the rationale behind this study.

The consequences of ignoring information literacy skills among these SHS students would be that students will not master content and extend their investigations to become more self-directed and also assume greater control over their own learning. It would also result in the haphazard use of information available anywhere by the students for their academic work which will eventually affect their leaning results and reduce the access to lifelong learning and professional development. It is against this backdrop that the researcher

decided to assess the IL skills among Opoku Ware and Yaa Asantewaa Girls' Senior High School students in Kumasi to ascertain their level of competencies in IL.

1.3 Purpose of the Study

The purpose of this study was to assess the Information Literacy Skills of students of Opoku Ware and Yaa Asantewaa Girls Senior High Schools in the Kumasi Metropolis of the Ashanti Region of Ghana to ascertain their competency levels in Information Literacy.

1.4 Objectives

The study sought to address the following specific objectives:

1. To determine whether SHS students of Opoku Ware and Yaa Asantewaa Girls' have the requisite skills to access and use the needed information effectively.
2. To gather evidence of how Opoku Ware and Yaa Asantewaa Girls' students evaluate information and its sources.
3. To ascertain the students awareness of the legal and ethical implications of information use.
4. To assess the barriers to effective use of information by students of Opoku Ware and Yaa Asantewaa Girls' Senior High Schools.

1.5 Research Questions

To accomplish the purpose of the study, the following questions were posed;

1. How do Opoku Ware and Yaa Asantewaa Girls' students use their skills to access and use information needed effectively?
2. What skill and ability do Opoku Ware and Yaa Asantewaa Girls' students have in evaluating information sources critically?

3. What is the level of awareness of Opoku Ware and Yaa Asantewaa Girls' students in the use information legally and ethically?
4. What are the barriers to the effective use of information by Opoku Ware and Yaa Asantewaa Girls' students?

1.6 Scope and Limitation of the study

The study was limited to two Senior High Schools in Kumasi in the Ashanti Region of Ghana. The schools were, Opoku Ware SHS and Yaa Asantewaa Girls' SHS. The choice of these schools stemmed from the fact that, they all fall into Category "A" Schools as classified by the Ghana Education Service. (Category 'A' means that the quantum of infrastructure and facilities in terms of teaching and learning are adequate and of good standard to support teaching and learning in a second cycle institution). Additionally, both schools are single sex and that was good basis for comparison. A major limitation of this study was the inability to assess IL skills of other schools in the Kumasi metropolis which are comparable in status to the selected schools of this study.

1.7 Theoretical Framework

According to Khan (1999), theoretical framework holds the theory of a research work by presenting the theory responsible for explaining the existence of the problem under study. He further stated that the purpose of theoretical framework is to aid the researcher in identifying the variable of the study and also to give the researcher a general structure on how to analyze the data collected.

The researcher adopted the Information Literacy Competency Standards (Model) developed by the Association of College and Research Libraries (ACRL, 2006).

The ACRL standard breaks information literacy into five main areas which are: Know, Access, Evaluate, Use and Ethical/Legal (ACRL, 2007). These broad areas are then broken down into performance indicators which focus on both skill and awareness based indicators. The five main areas are represented in the Table below;

1. The information literate student determines the nature and extent of the information needed.
2. The information literate student accesses needed information effectively and efficiently.
3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information legally and ethically.

Source: ACRL 2011

These standards were used to ascertain whether SHS Students of Opoku and Yaa Asantewaa are influenced by variables mentioned in these standards.

Each of the five Standards has their own performance indicators, the standards and their indicators are stated below:

Standard One - Determines the nature and extent of information needed.

Performance Indicators

- a. The Information Literate (IL) student is able to define the need for information.
- b. The IL student identifies a various types and formats of sources for information available.
- c. The IL student considers the costs and benefits of obtaining the needed information.

Standard Two - Accesses the needed information effectively and efficiently.

Performance Indicator:

- a. The IL student selects the most appropriate information retrieval systems for accessing the needed information.
- b. The IL student constructs and implements effectively strategies in searching.
- c. The IL student retrieves information online employing variety of methods.
- d. The IL student refines the search strategies if necessary.
- e. The IL student records, and manages the information and its sources well.

Standard Three - Evaluates information and its sources critically and incorporates selected information into his/her knowledge base.

Performance Indicators:

- a. The IL student summarises the main ideas to be extracted from the information accumulated.
- b. The IL student expresses initial criteria for evaluating both the information and its sources.
- c. The IL person synthesizes the main ideas of the information acquired to construct new concepts.
- d. The IL student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique features of the information.
- e. The IL student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.
- f. The IL student validates understanding and interpretation of the information of the information through discourse with other colleagues.
- g. The IL student determines whether the initial query should be revised or not.

Standard Four - Uses information effectively to accomplish a specific purpose

Performance Indicators:

- a. The information literate student applies new and prior information to the planning and creation of a particular product or performance.
- b. The information literate student revises the development process for the product or performance.

Standard Five - Understands many of the economic, legal, and social issues surrounding the use of information, and accesses and uses information ethically and legally.

Performance Indicators

- a. The IL student understands many of the ethical, legal and socio-economic issues surrounding information and Information Technology (IT).
- b. The IL student follows laws, regulations, institutional policies, and etiquette connected to the access and use of information resources.
- c. The information literate student acknowledges the use of information.

The above performance indicators will show the extent to which the students of Opoku Ware and Yaa Asantewaa Girls' high school students apply these standards in their pursuit for information. Based on the on the findings and results achieved by the study, the researcher can then make recommendations.

1.8 Significance of the study

The significance of the study lies in the fact that it will contribute to the already existing knowledge in the area of the study because so far not much research has been done in the area of IL in Senior High Schools in Ghana. The study will help Head teachers, teachers and the Ghana Education Service authorities to recognize the need and importance of integrating IL in the curricular of Senior High schools in Ghana. The research will also be

useful to researchers, as it will add to scholarly research and literature in the field, as well as creating the awareness and importance of IL in secondary education in Ghana. This research will fill the gap of information literacy skills among senior high schools in Ghana because so far a little research exists on this study especially in Ghana.

1.9 Organisation of the study

The study was captured in six chapters as follows:

Chapter one: This covered the introduction to the work. It contained the background to the study, brief history of the study settings, statement of the problem, purpose of the study, objectives of the study, research questions, scope and limitations of the study, theoretical framework for the study, and significance of the study.

Chapter two: This was devoted to literature review which consisted World view, African view and Ghanaian view of the topic together with the review of relevant literature on specific areas related to the topic.

Chapter three: This chapter also covered the methodology adopted for the study, made up of research design, selection of the cases, population, sampling and sample size, instrumentation, mode of data collection and analysis.

Chapter four: This dealt with the presentation of data and analysis.

Chapter five: This chapter discussed major findings of the study.

Chapter six: This was the final chapter and contained the summary of findings, conclusions and recommendations.

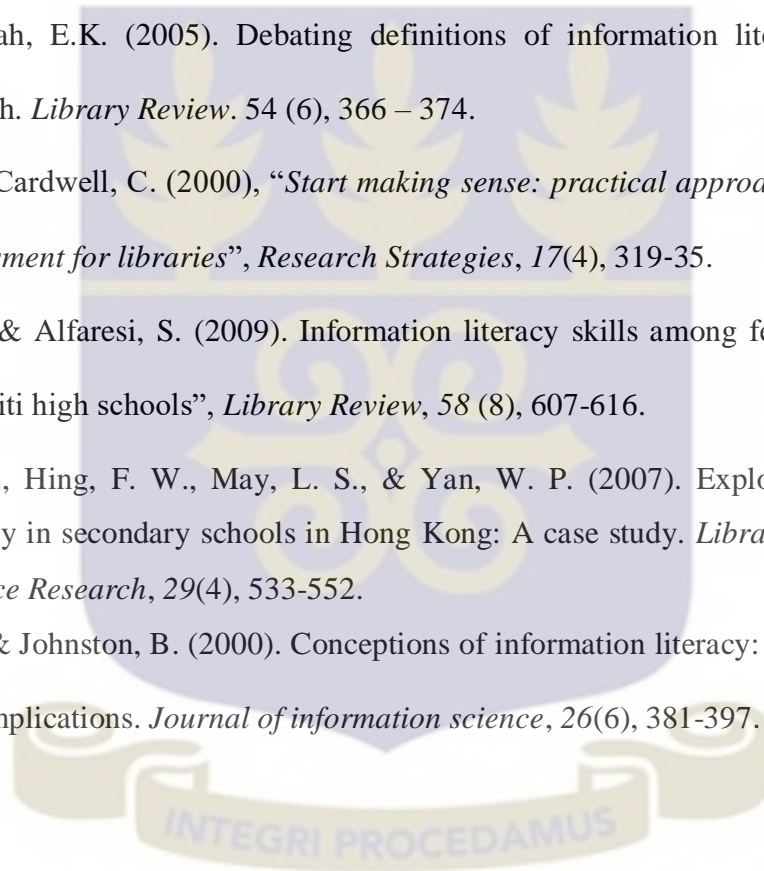
REFERENCES

- American Library Association. (2000). Information literacy competency standards for higher education. www.ala.org/ala/acrl/acrlstandards/standards.pdf (accessed March 7, 2015).
- Amekuedee, J. O. (2002). *An Evaluation of library automation in some Ghanaian university libraries*. (Unpublished M. Phil. Thesis). Department of Information Studies, University of Ghana, Legon.
- Asher, A. D., & Duke, L. M. (2010). Information literacy and first year students: Evaluating knowledge, needs, and instruction. In *National Resource Centre Annual Conference on the First-Year Experience, Denver, CO*.
- Association of College and Research Libraries (2002), “*Information literacy competency Standards for higher education*”, available at: www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm (accessed March 17, 2015).
- Association of Colleges and Research Libraries (ACRL). (2011). *Information Literacy Competency Standards for Higher Education*. Chicago, IL: ACRL. Available at <http://www.ala.org/ala/acrlstandards/standards.pdf>. (Accessed June, 11, 2015)
- Atreck, P., & Settle, R. B (1985). *The Survey Research handbook*. Illinois; IRWN, 29.
- Bentil, W. (2011). *The Use of Electronic Resources in Ghanaian Universities: a comparative study of the University of Cape Coast and the Central University College*, 74. (Unpublished M. Phil. Thesis). Department of Information Studies, University of Ghana, Legon.
- Bell, J. (2010). *Doing your research project: a guide for first-time researchers in education, health and social science*. 5th Ed. New York: McGraw-Hill.
- Bopp, R. E., & Smith, L. C. (Eds.). (2011). *Reference and Information Services: An Introduction: An Introduction*. ABC-CLIO.
- Breivik, P. S. (1985). A vision in the making: putting libraries back in the information society. *American Libraries*, 16(10), 723-723.
- Bruce, C. (2003, August). Seven faces of information literacy: Towards inviting students into new experiences. In *Higher Colleges of Technology, United Arab Emirates 2003 Annual Conference, 30 August 2003*.

- Bruce, C., Edwards, S. & Lupton, M. (2006) Six frames for information literacy education: A conceptual framework for interpreting the relationships between theory and practice. 5(1). http://www.ics.heacademy.ac.uk/italics/vol5-1/pdf/sixframes_final%20_1_.pdf (accessed 11 June, 2015).
- Bucher, K. T. (2000). The importance of information literacy skills in the middle school curriculum. *The Clearing House*, 73(4), 217-220.
- Bundy, A. (2004). Australian and New Zealand information literacy framework. *Principles, standards and practice*, 2.
- Candy, P. C. (2002). Lifelong learning and information literacy. White Paper prepared for UNESCO, the US National Commission on Libraries and Information Science and the National Forum on Information Literacy, for use at the Information Literacy Meeting of Experts, Prague, the Czech Republic. In *Information Literacy Meeting of Experts, Prague, The Czech Republic, July 2002*.
- Cassell, K. A., & Hiremath, U. (2013). *Reference and information services: An introduction*. American Library Association.
- Collins, B. L. (2009). Integrating information literacy skills into academic summer programs for precollege students. *Reference Services Review*, 37 (2), 143-154.
- Dadzie, P.S.(2007). *Information Literacy: assessing the readiness of Ghanaian Universities*. SAGE Publications. 23. 4, <http://idv.sagepub.com/>.
- Doyle, C. (1994). Information Research. "Information literacy in an information society: A concept for information age", Syracuse, New York: ERIC Clearinghouse on Information and Technology, 97.
- Eisenberg, M.B. (2008), Information Literacy: Essential Skills for the Information Age DESIDOC. *Journal of Library & Information Technology*.28 (2), 39-45
- Foo, S. et al. (2014). Information literacy skills of secondary school students in Singapore, *Aslib Journal of Information Management*. 66 (1), 54-76.
- Fraenkel, R. J. (1993). *How to design and evaluate research in education*. (4th ed.). New York: McGraw-Hill.

- Francke, H. Sundin, O. & Limberg, L. (2011). Debating credibility: the shaping of information literacies in upper secondary school. *Journal of Documentation*, 67 (4), 675 – 694.
- Hassan, A. (2010). *Accessibility and utilisation of scholarly electronic journals by members of the academic of Kwame Nkrumah University of Science and Technology*. (Unpublished M. A. Dissertation). Department of Information Studies, University of Ghana, Legon.
- Heidi, J. & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Australian Academic and Research libraries*, 31(1), 12–17.
- Jana, V. , Stec, E. & Kwon, H. (2014). Factors Affecting Students' Information Literacy as they transition from High School to College. *American Association of School Librarians*. 17, <http://www.ala.org/aasl/slr/volume17/varlejs-stec-kwon>.
- Julien, H., & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Library & Information Science Research*, 31(1), 12-17.
- Kai, S., & Wah, C. (2011). Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills. *Library & Information Science Research*, 33(2), 132–143.
- Lonsdale, R., & Armstrong, C. (2006). The role of the university library in supporting information literacy in UK secondary schools. *Aslib Proceedings*. 58(6), 553 – 569.

- Martin, C. M., Garcia, E. P., & McPhee, M. (2012). Information Literacy Outreach: Building a High School Program at California State University. *Northridge Education Libraries*, 35, 1-2.
- Mutula,S., Kgomotso,T., & Wamukoya, J. (2006). Design and implementation of an online information literacy module: Experience of the Department of Library and Information Studies, University of Botswana, *Online Information Review*. 30 (2), 168 – 187.
- Owusu- Ansah, E.K. (2005). Debating definitions of information literacy: enough is enough. *Library Review*. 54 (6), 366 – 374.
- Rabin, J., & Cardwell, C. (2000), “*Start making sense: practical approaches to outcomes assessment for libraries*”, *Research Strategies*, 17(4), 319-35.
- Rehman, S., & Alfaresi, S. (2009). Information literacy skills among female students in Kuwaiti high schools”, *Library Review*, 58 (8), 607-616.
- Van Aalst, J., Hing, F. W., May, L. S., & Yan, W. P. (2007). Exploring information literacy in secondary schools in Hong Kong: A case study. *Library & Information Science Research*, 29(4), 533-552.
- Webber, S., & Johnston, B. (2000). Conceptions of information literacy: new perspectives and implications. *Journal of information science*, 26(6), 381-397.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to Creswell (2008) literature review “shares with the reader the results of other studies that are closely related to the one being undertaken” and also “provides a framework for establishing the importance of the study as well as a benchmark for comparing the results with other findings”. Literature review helps researchers limit their scope of inquiry and convey the importance of studying a topic to readers. A literature review also aims to review the critical points of current knowledge on a particular topic (Hassan, 2010). This section therefore reviews pertinent literature related to Information Literacy from the history and development of Information Literacy, World view, African view and finally narrow it down to specific themes related to the study.

The major themes covered in this chapter are as follows;

1. History and development of Information Literacy.
2. Information Literacy in developed countries
3. Information Literacy in developing Countries.
4. Access and use of Information in Second Cycle schools
5. Evaluation of Information sources in Second Cycle
6. Legal and ethical use of information by students in Second Cycle schools
7. Barriers to effective use of information in schools
8. Challenges in integrating Information Literacy in Senior High school curriculum

2.2 History and Development of Information Literacy

Today, equipping one with IL competencies is seen as a move beyond a skills-based approach, especially in response to technological innovations such as Web 2.0 tools, mobile technologies, and the focus on the acquisition and production of knowledge in collaboration with others (Alexandersson and Limberg, 2003; Lundh and Limberg, 2008; Pawley, 2003; Sundin, 2008; Tuominen *et al.*, 2005).

It is without a doubt that IL is central to this redefinition because information takes on many forms online and is produced and communicated through multiple modalities, formats and platforms. A lot of effort has been dedicated to defining the term Information Literacy according to the needs of society, emergency of new information and communication technologies, and increasing volume of information. It is without a doubt that IL is central to this redefinition because information takes on many forms online and is produced and communicated through multiple modalities, formats and platforms. Information literacy also is increasingly important in the contemporary environment of rapid technological change and proliferating information resources. Goad (2002), in a brief definition of IL says “the ability to search for, find, evaluate, and use information from a variety of sources”.

The most current definition for IL is by National Forum on Information Literacy 2015 and it is defined as ‘a constellation of competencies revolving around information research, use, and practice across all occupations and professions. It is the foundation for effective, lifelong learning practice, personal, and professional empowerment.’ Pennell (1999) indicated that “information literate students are competent and independent learners” because they are able to display confidence in their ability to know what relevant information will be able to solve an information need.

The term Information Literacy (IL) was coined by Paul Zurkowski in the 1970s to bring attention to the needs of people working in the newly emerging technological environment (Kapitzke, 2003). Zurkowski who was the then president of U.S. Information Industry Association used the phrase “information literate” in 1974 to indicate people who have been trained in the application of information resources to their work (Carbo, 1997).

Boekhorst, (1999) stated that Zurkowski used the term IL in 1974 to refer to people capabilities for solving their information problem whereby application of relevant technology is used for relevant information. Since then, the concept has been mainly used by information specialists and librarians, and promulgated worldwide through the work of the American Library Association (ALA) and the National Forum for Information Literacy (Feather and Sturges, 2003). Bawden (2001) presents a comprehensive review of the discussion on the topic and concept and its relation to partly overlapping concepts such as digital literacy, library literacy and computer literacy.

Mutch (1997) suggests, much of the information literacy discussion has focused on the concept rather than its implications.

Some researchers describe IL as requisites to lifelong learning (Hancock, 1993; Moore, 2002). People have acquainted IL with information technology (Mitchell, 1996), while others have used the word interchangeably with library skills (Kuhlthau, 1990). This concept evolved in the Western World with terms such as library instructions, library orientation, bibliographical instructions and also user education among others.

Information Professionals and for that matter libraries have actually championed the development of IL at educational, individual, national and international levels. This interest has been there and can be traced back several years with names such as library

instructions or bibliographic and user education (Lester, 1979, Association of Colleges and Research Libraries 1966, Virkus 2003). International Organizations within and beyond the information profession are also involved in IL concept. A body such as International Federation of Library Associations and Institutions (IFLA) has produced guidelines for assessment of information Literacy and its role as lifelong learning, which complement national initiatives (IFLA, 2004).

Looking at Information Literacy from different perspectives from associations, organizations and individuals, IL is now seen as a global issues that has to be critically looked at for its smooth implementation in all academic institutions, right from the basic education through secondary schools to the university levels.

From the discussion above, it is therefore seen that Information Literacy has assumed prominent seat in the various levels of education in all spheres of human life as it permeates all life endeavours and the researches had made the effort of bringing to the light how Information Literacy has been defined from many angles and when it evolved.

2.3 Information Literacy in Developed Countries

Information literacy campaigns have started all over the world. Information Literacy has been a wide world phenomenon but very well accepted and practiced very well at most developed countries. This means that, the well developed countries around the globe have been at the forefront of information literacy crusade.

Information Literacy as a field of study has been more actively pursued well in North America and Australia and United Kingdom. In the United States of America, there have been a lot of initiatives and the two major ones are from the library sector. The initial one was by the Institute for Information Literacy and the second was the National Forum on

Information Literacy. The two initiatives encourage the teaching of Information literacy both in secondary schools and in higher education. The forum support, initiates, and monitors the projects of Information Literacy both in US and abroad (Johnson & Webber, 2009)

Curzon (2000), emphasizes the details process whereby information competence became a primary focus for the California State University system and how the libraries encouraged and fostered it through the use of fellowships and grants to professors.

However, Information Literacy in Spain as written by Hemandez and Urene (2003) has been comparatively on a low side due to setbacks in cultural activities during the twentieth century. Due to this setbacks, it led to poor developments in the collection of libraries and their services in all levels of libraries including, schools, public, and academic libraries. Presently, a lot of pilot projects are underway to support various libraries in schools in a form of distribution of materials and sharing of experiences to advocate for Information Literacy and make staffing policies to be able to advanced lifelong learning, reforms in education. In addition, they stressed the need for several range of ICT programmes to develop libraries in primary and secondary school levels to strengthen learning and compensate for the inequalities in the information accessibility to prevent academic failures among other things. Hemandez and Urene (2003) continue that, these supports and reforms have led to a brighter picture, as all academic and public librarians in the country engaged in IL activities for all types of users, though school libraries are still lagging behind. The main problems still to be addressed however seem to be much the same as in most countries comparable to Spain. IL as a responsibility for all learning facilitators, social awareness of lifelong learning needs, training of IL trainers, assessing the individual achievements and the institutional outcomes of IL training programs, and a clear

understanding of the remit and rationale for different literacy's within the information society.

Also in the United Kingdom (UK), the Quality Assurance Agency for Higher Education (2001) has stated that students should achieve a range of “transferable skills”, including the ability to “gather and analyze relevant information from a wide variety of sources using appropriate manual and electronic systems”. Awareness of social issues and equal opportunities are also seen as important transferable skills, but are not explicitly linked to information handling skill. Parker (2003) opines the ability to use libraries and information as a sign and of one being information literate is becoming increasingly recognized as an integral part of undergraduate study in the United Kingdom.

A research conducted by Foo, et.al., (2014) on assessing information Literacy levels of Secondary school students in Singapore revealed that, School Libraries Unit of the Ministry of Education published a set of Information Literacy Guidelines (ILG) and an Information Literacy Supplementary Materials to be used by Singapore schools right from the primary school through to secondary school level. This guideline provided a framework for teaching students how to manage their learning, handle increasing amounts of information, especially with the current trend and recent availability of the internet and help these students make creative use of the information obtained from these sources. The ILG document also included recommendations on how the IL program could be implemented within the school curriculum in specific subject disciplines, and rubrics for standards of performance in IL. Mokhtar *et al.* (2008) wrote that, IL made reappearance in the Singapore school curriculum after almost a decade and this move was seen as a positive move by local IL researchers and activists.

Around the same period a report published by the National Institute of Education (NIE) which identified among other things, twenty-first century skill sets for students are Learning and Innovation Skills, which includes critical thinking, problem solving, and innovation; and Knowledge, Information, Media and Technology Literacy Skills, which lists Information Literacy and Information and Communication Technology (ICT) literacy separately, as a result it is seen that IL has been recognized as a separate yet necessary component from ICT literacy. IL subsequently became a required basic skill set for both teachers and students of the twenty-first century.

According to Mokhtar *et al.* (2010) a group of researchers from Nanyang Technological University also proposed a model to help develop IL standards for secondary schools in Singapore and model was constructed using the already existing international IL standards. As a guide information and technology literacy process model known as the Big Six Skills, Eisenberg and Berkowitz (2009) and steered by related educational initiatives and values-driven education that have been implemented in Singapore.

The then Minister of Education mentioned this study in his presentation and stressed that information literacy should be considered one of the higher intellectual domains for implementing education system which is a value-driven Heng (2011) and further emphasized the need to fully integrate information literacy skills into the curriculum to help students understand the application of such skills.

2.4 Information Literacy in Developing Countries

Some scholars have suggested that the digital divide between the developed and developing world has widened because of the lack of Information Literacy skills in developing countries Dewan, Ganley, and Kraemer (2005). Pejova, (2000) emphasized

that, one barrier to the efficient use and utilization of Information and Communication Technology (ICT) in developing countries is the relatively low level of Information Literacy among people. He further stressed that without the ability of the people to manipulate and use information effectively; investments in ICT for development projects may be wasted if not unsuccessful. Without Information Literacy, developing nations may continue to underutilize the technology that is provided to them, resulting in a waste of resources with potentially serious repercussions for their development. He further stressed that, urgent and energetic efforts at addressing the Information Literacy issue in less developed countries is needed to prevent further widening the gap between developed and developing countries.

Dorman and Gorman (2006) in trying to define Information Literacy for the developing country, defines IL as the ability of individuals or group of people in their unique context: to understand when information can help, to know how to find and evaluate it, to understand to integrate the relevant, information to create new knowledge or add to existing knowledge, to use this knowledge as needed to resolve their problems, and to evaluate and learn from experience.

According to Tilwawala, Myers and Andrade (2009) there are a growing number of Information and Communications Technologies (ICT) initiatives in developing countries. These initiatives are usually undertaken on the basis that they are important for social and economic development. The information age has led to a shift in the global economy's focus from physical resources to the way information is used and manipulated Castells (2000) Drucker (1969) and Machlup (1962). ICT has become the major driving force behind this shift. The challenge of keeping up with the information economy particularly affects developing countries.

Jorosi and Isaac (2008) stipulates that, although, IL as a subject has generated a vast body of literature, it still remains an undeveloped area in the developing countries especially in the sub-Saharan Africa countries. Just few scholars have demonstrated interest in the subject and this phenomenon has actually limited a fuller understanding of how Information is delivered and conceptualized in the developing countries.

In order to achieve full benefit of IL in developing nations, a collaborative effort between librarians and teaching staff must be established as a process to facilitate planning and discussing goals of information Literacy. Dooner (2009) affirms that IL education is a cooperative process. Additionally, the Association of Academic and Research Libraries (ACRL) emphasize the need for this collaboration in an official publication. Example is 'Guidance for Instructions Programs in Academic Libraries' (ACRL, 2003).

Developing nations as well as less developed countries must strive in their effort to find pragmatic strategies to address the issue of IL programs across all educational circles including senior high schools. Libraries must be well resourced with the necessary facilities so as to enhance the teaching of IL to help individual students to become lifelong learners. By this way, the well developed countries that have the ease of developing IL programs should have collaborations with the less developed nations to help them bridge the gap that exist between the two category of nations. To this effect, Dadzie (2007) stipulated that a joint project should be put together to help individual countries to broaden and intensify their existing activities on IL implementation as well as promotion.

These limitations notwithstanding, there are African countries which are not relenting on their effort but had also taken some sort of initiatives and approaches of emphasizing and initiating Information Literacy programs. In Africa, a variety of programs exist in many countries, for instance, in 2004, Uganda hosted the Standing Conference of African

National and University Libraries in Eastern, Central and Southern Africa (SCANUL-ECS) and undertook as its main theme, “User Information Literacy: a challenge for national and university libraries”. It focused on how best Information Literacy could be well grounded in that country’s universities.

In Nigeria there are important parallels in IL theory and practice between Nigeria and other countries with well-established IL traditions, however, Idiodi, E. A. (2005) opines factors such as economic instability, under-resourcing and computer (ICT) illiteracy inhibit the full development of IL programmes in the country.

Ajibero (1995) supporting this, also advocated for the importance of funding of academic library instructions to the Nigerian Universities as it a standard service provided by the Universities to ensure the continuity of these programs into the 21st Century. Lorenzen (2003) writing on Information Literacy development in Nigeria also identified the significant number of academic library instructions developed in Nigeria Universities. Additionally, Nwoye and Anafulu (1973) emphasizes on details on a required course on Library skills at the Universities of Nigeria. These shows that Nigeria is not left out when it comes to Information Literacy skills programs towards building information Literate graduates for the nation’s development.

Aiyepku, Atinmo, and Aderinoye (2002) advocating for the development of Information Literacy in developing countries stated that program should be developed to suit the specific needs and local environment proposed that the goal of information literacy programs in Africa should be to help “inculcate a lifelong habit of identifying an information need and efficiency searching for, and using, indigenous oral, print, electronic

and other sources of information to satisfy that need and thereby enhance personal, community, and socio-economic interest”.

There have likewise been a few studies on IL in Iran. According to Shakeri, (2010) during the last three decades of 1980s to 2000s, Iranian librarians have been aware of IL as “the ability to recognize the extent and nature of an information need, then to locate, manage, critically evaluate, and effectively use information”. However, Parirokh, M. (1997) tried endeavors to present the idea of IL in a more scholastic manner in the nation. Thus Iranian librarians comprehended their key part in direction of IL.

2.4.1 Ghanaian view of Information Literacy

Ghanaian academic circles have realized the importance of Information Literacy skills among students to develop lifelong learning capabilities and also the use of information ethically and legally in order to avoid plagiarism and copyright infringements. As a result, almost all the public University in Ghana namely University of Ghana (UG), University of Education, Winneba (UEW) and all its satellites campuses across the country, University of Cape Coast (UCC), Kwame Nkrumah University of Science and Technology (KNUST) and University of Development Studies (UDS) have introduced Information Literacy as a requirement and credit bearing course for all first year students. However, the same cannot be said for numerous private universities that have sprung across the length and breadth of the country.

Information Literacy is however yet to extend to cover Senior High Schools in Ghana, as a result, not much literature can be seen in the area of information literacy at the senior high levels in Ghana. Even most of the teachers at these levels are yet to understand the concept let alone the students, the reason being that IL is not part of the senior high school

curriculums and as a result, most of the researches that had been conducted in the area of IL are always basically focused on the Tertiary Institutions.

Dadzie (2007) wrote on initiatives of Information Literacy by two university libraries thus the University of Ghana and University of Cape Coast and some of the departments within the Universities. These initiatives include library literacy and Information searching skills, and emphasizes that library literacy is carried out in the University of Cape Coast to some extent. She stresses Information Literacy should be a requirement right from the first year of higher educational institutions, in order that students at this level become independent in an essay and thesis writing as well as for them to become lifelong learners.

In their quest to find out the impact of Information Literacy course on students at Cape Coast University, Afful-Arthur and Filson (2015) observed in their research that the IL course has had a positive impact on students in their academic pursuit as well as the increasing number of students in usage of library services in general. The study further revealed how most of the students wished the duration of the IL programme could be extended because of its positive impact on their academic work.

Similarly, Ahenkorah-Marfo and Teye (2010) found out in their research that, the previous user education strategies employed by the KNUST library proved ineffective in the face of increasing intake of students population at the University. However, with the introduction of ILS programme which is actually based on electronics environment and also as part of the university curriculum, the larger part if not all users will be covered to participate in the programme.

Aggrey (2009) took a bigger view of Information Literacy skills across Ghana and advocated for the development of National Information Literacy Standards to support

student's academic work in the long term, he further recommends the teaching of Information Retrieval at all levels of both new and continuing students at the University of Ghana Medical School.

In a related study, Anafo and Filson (2014) observed that majority of students at Ashesi University lack search strategy as they are not able to distinguish between library's catalogue and bibliographic databases and these findings clearly suggest the lack of Information Literacy skills and therefore made recommendation of incorporation of Information Literacy course in the curricular of the university to equip the students with the skills.

Kisiedu, (2002) established that, fresh students apart from the usual annual Library orientation which is provided by all libraries, very little is done by way of Information Literacy training. She therefore recommended that Information Literacy programmes on the basis of the Chartered Institution of Library and Information Professional (CILIP) should be instituted by all public Universities in Ghana to facilitate teaching and learning. This must apply to other levels of education as well especially at the secondary school level to enhance their information literacy skills.

2.5 Access to Information by Secondary School Students

There are numerous sources that information could be accessed from, and some of these Information sources available are print, audio, visual, online information etc. Information is core commodity that allows public opinion to form. It is recognized that, access and use of information services require strengthening of the core values of the libraries as espoused by International Federation of Library Association and Institution (IFLA) even as the digital world and free access to information services continue to evolve.

According to Hamilton, and Ole Pors (2003) public libraries, as publicly funded institutions supposedly devoid of socio-economic, political or religious interest or prejudice, are one of the channels that is supposed to provide free access to information for all and sundry.

A comparative research conducted in Iran Secondary schools by Isfandyaru and Kashi (2011) to find out the role of Information Technology play in Information Literacy levels in students revealed that students who make use of information Technology or have access to IT to search for Information are more Information Literate than students who do not have access to IT facilities to search for information. Their result revealed that schools with IT facilities scored two Hundred and sixty (260) representing 61% as against schools without IT facilities which scored One Hundred and one (161) which represents 39% of the total population of 421 respondents.

Research conducted by Foo et. al. (2014) to assess Information Literacy skills among Singapore Secondary school students, found out that various libraries including school libraries were underutilized and the assessment of IL skills among the students in terms of location, access, use of information and other skills stated by the Big Six Model were found to be unsatisfactory as each of the category of the IL skills recorded below 50% out of the 100% maximum score. Type of school, academic stream of study, family background of the students were some of the issues identified as having greater influence of the IL skills of these students. Even though this research was done in Singapore it could be used to compare with the current study because it was conducted using secondary school students just as this study. Hence, there should be total freedom to access information at anytime, anywhere to help mankind have reliable information for positive development. “The right of access to information and ideas is vital for any society. If

citizens are to participate and make informed choices, they must have access to political, social, scientific and economic information and cultural expressions. They need access to the widest range of ideas, information and images. Freedom, prosperity and the development of society depend on education as well as on unrestricted access to knowledge, thought, culture and information” (FAIFE, 2002).

Choldin (1996) and Sturges (2001) in several International conventions, including the *Universal Declaration of Human Rights* and the *International Covenant on Civil and Political Rights*, seek to guarantee freedom the right of access to sources of information.” It further states that, “these declarations are concerned with upholding the rights of citizens to not only express any view, but also to have access to the fullest range of views expressed by others. The idea is that access to information allows citizens to participate in the democratic process and make informed choices that will lead to the development of society as a whole. It convention goes on to say that “if an individual’s freedom of access to information or freedom of expression is impeded, information flow suffers and democratic processes are set back”.

As noted by Ocholla (2009) rights-based theories work according to the premise that “the right thing to do is determined by the rights that human beings have”, for example, the rights agreed on in 1948’s United Nations Universal Declaration of Human Rights (UNUDHR). Without opportunity of thought and flexibility of expression set up there are no conditions for opportunity of access to data (FAIFE, 2002).

2.5.1 Use of Information by students

The use of information, especially electronic resources may vary among patrons from different disciplines. Nicholas et al. (2009) reported in their study that, e-journals in the field of life sciences are used more frequently than e-journals in economics and history.

Wu, et al (2006) in contrast mentioned that “humanities scholars prefer monographs to periodicals, and that they disagree that e-books will replace printed versions”. Littman and Connaway (2004) opine in their study that “students from the disciplines of computer science, medicine, education, and psychology prefer using e-books”. In support of this, Slater, (2009) reported that “students studying computer science, technology, and related fields strongly prefer using e-books”.

Rowlands (2007) found varied usage patterns among students from different disciplines. Hamade and Al- Yousef (2010) indicated in their findings when conducted a study of students in Kuwait found out that, majority of students use books, journal articles and web pages as their preferred types of information resources. There are many factors that contribute to the selection and use of different information sources according to Shanmugan, (1999) and Yang, (1998). Some of these are cost, past success, accuracy, reliability, comprehensiveness, usefulness, currency, response time, accessibility, technical quality and the format.

Porat and Haas (1969), Streufert (1973) indicate that, the direct relationship between the quality of use by a decision maker and decision making performance has been well established and a number of research studies have demonstrated that the availability of relevant information typically improves the accuracy of decisions. Conversely, as stipulated by Helpin, Streufert, Steffey, et al. (1971) Manis, Fichman, and Platt, (1978)

irrelevant signal may also make the identification of relevant information more difficult and may decrease decision making performances. In general sense therefore, there is a reasonable notion that good information lead to good decision making.

Badu (1991) conducted a research at the University of Ghana on information seeking behaviour and information use, it was found that, many students consult their personal collection of books or information, then department libraries, and then eventually the main library of the university this reason stems from the fact that, the students claimed they have no or little knowledge of the types of resources available at the library. The study therefore recommended education of users about the library through the integration of user education in the university curriculum. Averill and Lewis (2013) stated in the finding of their study that, students at all levels of education do not use research process which actually involved the ability recognize information needs, chooses the appropriate sources, evaluate and use it for the intended purpose at hand, but rather, rely always on sources like Wikipedia and Google, However, relying on sources shows that there exist lack of IL which poses a lot of threats to students and prevent them from becoming lifelong learners.

Rehman and Alferesi (2009) on the students in Kuwaiti high school showed some deficiencies in their information searching skills, it was discovered that majority of the students lacked basic skills in the use and searching of information and most of all their capabilities in the selection and use of information sources was found to be weak and limited. The level of the situation leaves some serious questions about these students level of information literacy. The study recommended that policy makers have look critically at the situation for a better solution.

2.6 Evaluation of Information Sources by second cycle schools

In evaluating the credibility of information source there are several key areas to consider:

- the **Authority** of the author and the background of the publisher
- the **Objectivity** of the author
- the **Quality** of the work
- the **Currency** of the work
- the **Relevancy** of the work

Evaluation seems a difficult and complicated process therefore Fitzgerald (1998) observed that information evaluation is a task which is so complex to perform, and so many people fail in the area of information evaluation.

In evaluating the credibility of information source there are several key areas to consider, and these are the Authority of the author, the background of the publisher, the objectivity of the author, the quality of the work, the currency of the work and the relevancy of the work. It is a known fact that not all information available and especially on the Internet is authentic. Information is available in a multiple media such as graphical, aural, and textual. These pose special challenges for students with the issue of evaluating, understanding, and using information in an ethical and legal manner (Bundy, 2004). Studies of high-school students have found that students have “difficulty evaluating the veracity and objectivity of information” (Adams, 1999).

Johnson and Lamb (2003) suggest that it is imperative for students to learn how to evaluate the quality of information students find on the web and any other information available elsewhere as books, magazines and all other sources. Content of an information and most especially information on the Internet must be evaluated based on the authority, objectivity, authenticity, reliability, relevance, relevance and timeliness of that particular information.

A similar study conducted by Julien and Barker (2008) in Alberta, Canada on how high school students find and evaluate information sources revealed that evidence exist in lack of investigative procedure of information among high school students. The findings confirmed what Branch (2003), Brown (2001), and Toad (2004) had also discussed about the lack of searching skills and critical information evaluation skills among students. Heidi and Barker (2009) in their research result into how high school students evaluate information sources found out that, most of the students viewed trustworthiness of information based on the website rather than the content of the information. The overall result shows that 59% of the information sources were Internet based and Google was the most used search engine and they revealed that evaluating the website alone is a risky practice and that the students need to be better equipped on evaluating the content.

However, Brarranoik (2001) in her study with biology high school students showed that over 80% of the students were more particular and concerned with the content of information and therefore recommended that teachers should rather give prominence to the process of information searching by equipping the students with the necessary skills and capabilities to search and evaluate for the right sources of information. Scholz-Crane (1998) states that, there is a changing face on how students conduct information research because of World Wide Web (WWW) and that millions of students access information on the web and the process is too simple which has lowered the quality of students' research process. A similar statement was made by Rothenberg (1997) I quote "You toss a query to a machine, wait for minutes, and suddenly a lot of possible source of information appear on your screen".

Barranoik, (2001); Fidel, Davies, and Douglass, (1999); Scott and O'Sullivan, (2005) found out that, students demonstrate poor search skills, which include selecting search terms, evaluating websites, and appropriately citing sources.

Lorenzen (2001) discovered in a study that about 35% of the respondents in high-school lacked evaluation skills, this is based on the answers they provided which indicated that the Internet give them fast responses and as soon as they get information that satisfy their needs they become fine and evaluating the source of the information is therefore not a priority . Brem, Russell, and Weems (2001) confirmed this as it was also revealed in a study that, high-school students were unable to distinguish credibility in web sites.

There has been new emerging trends changing of how students conduct information research all because of World Wide Web and some educators feel that the web has actually lowered the quality of how students write and present research papers (Scholz-Crane 1998). He further stressed that the librarian has the duty to teach students the skills necessary for effective evaluation of information sources because, the information available on the web has pushed the teaching of evaluation skills to the forefront today.

Francke, et. Al (2011) indicated that over 80% of the students evaluate their sources, an empirically based understanding of students Information Literacy practice. On the contrary, Limberg (2007) in his research demonstrated in the finding that high school students often address searching for facts without questioning or analyzing the information they acquire. In a similar survey conducted by the Pew Internet and America Life Project as cited by Rockson (2005) it was found out that nine (9) out of ten (10) students have access to Online Information, because most of them use the Internet for research. Most of these information come in different formats and choices and then rate of number of teenagers and young adults who rely on and use the . To this effect which most of them

accept the information of these sites as reliable and therefore it behoves on librarians, teachers and concerned citizens to give a helping hand to these youngsters to understand that they should not put equal value on all information available on online sources and must also be evaluated. He continues that, to effectively evaluate an information source, you must first determine exactly what you are looking at.

Primary and Secondary sources firstly identified, then identifying Popular and Scholarly sources. A Primary Source of information is a firsthand or eyewitness account of an event. It is also raw data or facts which were gathered at an event. They include diaries, letters, newspaper articles reported from an event, public documents, laws, court records, speeches, statistics, surveys, logs, journals. A Secondary Source of information comes after the fact, it is literature that analyzes, interprets, relates or evaluates a primary source.

2.7 Ethical and Legal implication of Information Use

Information users all around the world and most especially students must be made aware of legal and ethical issues such as copyright and plagiarism associated with the use of information available in all sources, be it print, audio, visual, and information found online. There is basically two fundamental issues concern with the use of information, these are copyright and plagiarism. The word “legal” is defined by Webster’s Third New International Dictionary as a requirement or right established by law. Plagiarism is an aspect of information ethics, according to the Institute for Information Ethics and Policy (2013) are the totality of issues that involves an individual’s privacy and the public’s “right to know”. Information ethics (IE) can be broadly defined as a field of applied ethics that ‘provides a critical framework for considering moral issues concerning informational privacy, moral agency and some problems arising from the life-cycle examples are creation, collection, recording, distribution, processing of information, especially

ownership and copyright, digital divide' Salman. ,Ocholla ,Mostert, and Mugwisi (2013). Plagiarism is often defined as copying or using someone else's work as your own.

Plagiarism according to Edexcel has become a huge problem among secondary students. However, the authors are to find how best they can offer a helping hand to curtail it through the use of software. Edexcel 2012 Survey found the use of the internet by some students in secondary schools are plagiarizing are content of a document without analyzing the data for them is the order of the day. The survey further found out that, there is escalating number of secondary school students copying someone's work and make it looks like their own. Edexcel detected in the study One Hundred and Twenty Two (122) cases of plagiarism when they ran its papers through the Turnitin plagiarism detection services.

Edexcel establishes that ninety eight percent (98%) of UK Universities use Turnitin software to monitor plagiarism. Therefore the issue of plagiarism needs to be addressed particularly at the secondary school level for Ghana too. They therefore recommend that teachers and librarians are the key people to instil good research and writing techniques at Secondary school level.

Stuart (2002) defines plagiarism as knowingly cheating, it is a form of intellectual theft which still and often eludes detection, and, even when detected, is difficult to prove beyond reasonable doubt. It is usually not equated with copyright infringement, although it can be that, and the difference is often described as being between "theft of text" (the infringement) and "theft of authorship" which takes us in the area of the moral rights of the original author. People are progressively confronted with different and unfiltered data decisions in their studies, in their work environments, and in their lives.

Similarly, Bundy (2004) states that these pose special challenges in evaluating, understanding, and using information in an ethical and legal manner. Todd (1998) showed the extent to which electronic environment played a part in the problem of plagiarism at secondary school level as far back as 1998 and still persisting.

A current research conducted by the University of the Balearic Island to analyze academic plagiarism among secondary school students established a widespread of plagiarism in secondary education especially among boys. The study revealed that boys tend to be guilty in plagiarism more than girls and also found that plagiarism exist among students that procrastinate academic work until last minute. With a total number of One Thousand Two Hundred and Ninety One (1,291) students sampled, 72.5% admitted of copying without referencing or acknowledging the author of the original work. The study subsequently recommended the need to teach pupils how to use information effectively and ethically.

Opendhiem (2008) reports that, there is the likelihood that legal issues surrounding the use of internet would be more difficult and there is the need for new systems to resolve disputes and that a new body of law will be needed and he called on information professional around the world to meaningfully contributed to the legal debate that is going on.

According to Jones (2002) using the Internet to conduct research for information by students has been on the increased regardless of whether the research project required the use of the Internet or not. Britt and Anglinskis (2002) added that the use of Internet for research purposes increases the need by students to employ critical evaluation to find out the reliability, credibility and trustworthiness of the information source.

Similarly, a research conducted with Australian secondary school students by Williamson and McGregor (2006) on the understanding of plagiarism revealed that all students seemed

to have understanding of plagiarism but most of the students were unable to recognize it and some also indicated that they did not know how well enough to fulfil the requirement on how to use their own words to analyze their own academic work, example, assignment and essays.

In like manner, the colossal multiplication of assets, media and innovations for access and utilization of data have required that the clients are furnished with the fitting capacities of Information literacy (IL). For this reason, teaching students how to cite information correctly is a fundamental skill (Seamans, 2002). Teaching students the skill to cite properly and correctly would make students cite information sources well to avoid committing the crime of plagiarism.

The one sure best way for student to better understand legal and ethical implication associated with the use of information or concept of information ethics is through the introduction and teaching of the course like Information Literacy in all educational levels especially form senior high school stage. According to Gullifer and Tyson (2010) Information Literacy would teach students proper methods to cite and at the end, prevent student from violating all aspects of unethical misconduct, cheating and academic dishonesty infringement such as copyright laws and plagiarism.

Auer and Krupar (2002) suggested that the Internet and full-text databases have made students plagiarism a more serious issue than before. Plagiarism cases among universities around the world are swelling up, and the reasons include more Internet resources, the ease of cutting and pasting, lazy attitudes towards citation, student ignorance about fair use of information, student, faculty reluctance to report, and a consumerist approach to getting a degree.

Plagiarism, like allegations of financial irregularities, can affect an institution in a very public way at a time when, through competition in higher education and the dominance of brand equity in marketing initiatives in universities, it can do the most harm. Plagiarism is simply very difficult categorically and substantively to prove.

2.8 Barriers to information use

Information barriers or information limits are obstacles to access to information. Information barriers or limits have a negative influence on information need which can hinder their identification or awareness.

According to Engelbert (1974) described barriers to information as manifestations of the objective reality which impede the flow of information from the generator or the information system to the addressee or the receiver. Information barriers also arise whenever there is a variance between the ideal and the actual accessibility to published information (Haag, 1989).

S´wigoń (2006) observed that, 80% of barriers to information are connected to libraries. The study also showed variation in sex because of varied responses from male and female as women perceived information barriers as a more serious problem more than men. He further stated that Information barriers are obstacles hindering, delaying or preventing access to information that is, information seeking, searching and using. Information barriers arise in the same context as information need, and are connected with personal characteristics as well as micro- and macro- environmental conditions.

On the other hand Byrne (2003) stated that, access to the powerful combination of digital publications, specialist and generalist databases, sophisticated search systems and portals have created unprecedented desktop access to scholarly information and all put together

have provided a digital library which enables scholars and students to rapidly examine a great wealth of the scholarly literature in their own disciplines and those new to them. He further stressed, access to information is available globally 24 hours a day without geographical limitation.

In contrast Byrne (2003) emphasized that, access is not without limitations and that, it is limited by the availability of reliable and affordable information and communication technologies, and limited to those scholars and students who are affiliated to organizations which have the resources and skills to provide access, it is also limited to those who are literate, Information-Literate and have a command of the major languages of commerce example, English language in particular.

Byrne (2003) states that “whether it be from a common access Internet facility, home, school, university or workplace, ready access to a computer with reasonable capabilities is essential., without enough computers, it is impossible to get sufficient access time, without adequate memory, speed and storage, it is impossible to open, download or use electronic scholarly information and these problems can be compounded by ageing hardware and lack of technical support”.

Another study conducted by Rehman and Alfaresi (2009) on Kuwaiti Girls senior high school, indicated that, the students lacked skills for searching the catalogue, selection of information sources, formation of search strategies ,and selection of pertinent sources to locate information.

S’wigon’ (2006) as quoted by Robson and Robinson (2013) made a proposal and indicated that universal typology of information barriers consists of four groups. Firstly, barriers connected with personal characteristics which include; unawareness barrier, lack

of information skills, terminology barrier, foreign language barrier, lack of time, psychological resistance to computer and internet use, psychological resistance to asking question, barrier of educational level, passive attitude, barriers connected with demographic variables: age, sex and other factors.

The Second barrier according to him is, interpersonal barriers which include; lack of help from people who are the source of primary and secondary information example are researchers seeking to have information from when answers are being sought for in times of solving problems.

Third barrier has to do with, environmental barriers, which include, legal barriers, some information may be held for security and confidentialities associated with it, examples are some governmental, military and judicial information, financial barriers, some information may require some financial commitments before having access to them, geographical barriers, distance can also cause barriers to some information, political barriers, cultural barriers, and lastly, barriers connected with information resources which include libraries, internet or barriers created by authors of information.

S'wigon' (2006) further emphasized that, this group can be divided into at least two subgroups: barriers in libraries which is lack of resources in home library, unfriendly rules in libraries, library's delays, other barriers he stressed including inconvenient open hours, arrangement of the collection, poor advertisement of information sources in libraries, library anxiety; and barriers created by authors and publishers of primary and secondary information, which is information overload, low quality of information, irrelevant information, unfriendly information retrieval and searching tools, publishing delay, domination of English language, other barriers, e.g. information not yet published.

Bambaro (2014) opines in her study how to overcome the barriers to Information, identified how Information literacy should become compulsory despite all common challenges cited. She further found out how librarians were able to model Information Literacy programmes after using critical approach and Literary Method Lab and Methodology which is transferrable to other disciplines at Dickinson College. This led to increase in training of students in the English department as faculty members were interested in the training the students of the department of the school to become better researchers.

2.9 Challenges in the Integration of Information Literacy in Senior High School

Curriculum

Information literacy skills impartation programs cannot be realized without proper integration into the curricular of educational institutions across the educational system in Ghana, especially from his early stages of education. Research conducted by The World Bank in 2013 revealed that, unlike the well developed countries where Information Literacy programs have been well established with relatively less resistance, developing countries are faces with a number of teething problems in their quest to develop information literacy programs. The study by the World Bank Group reported three significant hindrances that militant against IL in developing nations.

They identified three major handicaps which are;

- i. Traditional educational system,
- ii. Low literacy rate,
- iii. Low level publishing,

This is more evident that implementation, facilitating and promotion of information literacy Programmes will be more difficult as compare to a more advanced country.

In the view of Adam and Wood (2006) non- integration of IL in school curriculum has effect on information search of students. In their investigation of the use of Information, Communication and Technology (ICT) in African libraries, they built up among different elements the issue of absence of IL to decide the level of reconciliation of IL inside its scholastic projects, it was uncovered that, the majority of the understudies were ill-equipped with the essential IL aptitudes, for example, capacity to discover, distinguish, find, survey, select, and apply data required for their studies and in the workplace; they experienced issues in utilizing the pertinent devices to find data and learning; and experienced issues in basically assessing, breaking down, and looking at the data coming their direction.

Rabin and Cardwell (2000) showed that “students who had taken a course with a basic information literacy component knew more than those who had not. Students who had a library instruction session were more aware of library services than those who had not”.

Snavelly (2001) hints that IL is still misunderstood and that it something that is been taught elsewhere and that there is a misconception among students that they already possess IL competencies. The research further states that, IL is not just the responsibility of the librarian and the library but has a connotation to help nurture the development of social and educational prospects in a society and also a fundamental requirement for a learning society.

Pejova, (2002) foresaw Information Literacy implementation in Africa nations as a challenge; this was due to the fact that the people are handicapped in terms of availability

of information resources and effective use of information. The above challenges notwithstanding, few of the developing countries have so far been able to storm the weather and have been introduced IL into college and university curricular through the efforts of librarians because of their role as teachers of information and for that matter Information literacy.

Shakeri (2010) spelt out three (3) factors conducted that there are four (4) factors that militate against the integration of information literacy in educational curriculum. The first one is the barriers affected by the efficiency of research and education system in a particular country. The second factor is the technical problems associated with libraries and information centres. Thirdly, he stressed the economic, social and cultural problems and lastly, administrative and managerial barriers.

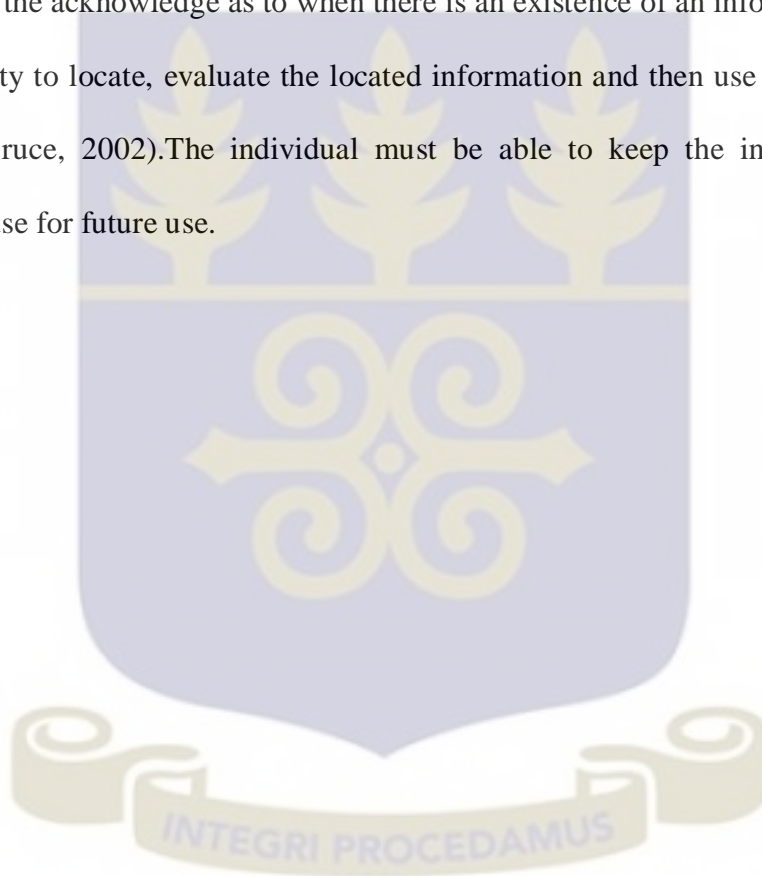
2.10 Summary of Review

To sum up, the literature reviewed had showed that Information literacy has become a global phenomenon for educational institutions right from the basic schools through the secondary schools to the university levels. Information is in abundance and in different format so having the skill of IL help students and individuals to take full control of their life's and helps them to realize when there exist an information need and be able to access such information from variety of sources, evaluate the accessed information effectively and efficiently by carefully watching and verifying the authenticity of the information and then use the information for the intended purpose by taking into consideration the legal and ethical use of the information retrieved.

Having the knowledge of IL will help limit the barriers that prevent senior high students from accessing and use of information in both print and electronic versions. Information

Literacy skills is therefore very necessary to be introduced and integrated into Senior High Schools in Ghana syllabus to enable students have a clear knowledge of various information sources available and their usage for a smooth transition having the basis of IL as they progress to the higher level institutions and also to become lifelong learners with the skills of Information Literacy embedded in them.

Information literacy is therefore one of the critical literacy in the 21st century as generally one will have the acknowledge as to when there is an existence of an information need and have the ability to locate, evaluate the located information and then use it effectively and efficiently (Bruce, 2002).The individual must be able to keep the information in the knowledge base for future use.



REFERENCES

- Afful-Arthur, P., & Filson, C.K. (2015). Strengthening the Teaching Information Literacy skills: Case of University of Cape Coast, Ghana.
- Agyei, D. D., Kofi, C. Y., Fiankor, D. & Osman, H., "The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana" (2015). *Library Philosophy and Practice (e-journal)*. 1236. <http://digitalcommons.unl.edu/libphilprac/1236>.
- Ahenkorah-Marfo, M. & Teye, V.(2010). From User Education to Information Literacy: The Kwame Nkrumah University of Science and Technology library's Experience. *Ghana Library Journal*, 21 (1&2).
- Aiyepoku, W., Atinmo, M., & Aderinoye, R. (2002). *Towards a Functional Infoliteracy Campaign in African States: White Paper Prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Information and the National Forum on Information Literacy*.
- Alexandersson, M., & Limberg, L. (2003). Constructing Meaning Through Information Artefacts. *The New Review of Information Behaviour Research* , 4, 17-30.
- American Library Association. (1989). *Presidential Committee on Information Literacy*. Washington DC: ALA.
- American Library Association. (1989). *Presidential Committee on Information Literacy: Final Report*. Washington, DC: American Library Association.
- Anafo, P., & Filson, C., (2014) "Promoting Information Literacy among Undergraduate Students of Ashesi University College.. *Library Philosophy and Practice (e-journal)*. Paper 1032. <http://digitalcommons.unl.edu/libphilprac/1032>
- Antonio, J., Gómez, H., & Ureña, C. P. (2003). Information Literacy Developments and Issues in Spain. *LibraryReview* , 52 (7), 340-348.
- Association of College and Research Libraries. (2002). *Information Literacy Competency Standards for Higher Education*. Washington DC: ALA.

- Badu, E.E.(1991), " The information Seeking habits of graduate students in the University of Ghana." *Education Libraries Review*, 34(2), 35-39.
- Bombaro, C. (2014). Overcoming the barriers to information literacy programs: CALM Lab for English majors at Dickinson College. *Reference Services Review*, 42(2), 246-262.
- Bawden, D. (2001). Information and digital literacies: a review of concepts. *Journal of documentation*, 57(2), 218-259.
- Bernard, R., & Dulle, F. (2014). Assessment of Access and Use of School Library Information Resources by Secondary Schools Students in Morogoro Municipality, Tanzania. *Library Philosophy and Practice* (e-journal) paper 1107. <http://digitalcommons.unl.edu/linphilprac/1107>
- Boekhorst, A.K. (2004), "Information literacy at school level: a comparative study between the Netherlands and South Africa", *South African Journal of Libraries and Information Science*, 70 (2), 63-71.
- Bombaro, C. (2014). Overcoming the Barriers to Information Literacy Programs: CALM Lab for English Majors at Dickinson College. *Reference Services Review* , 42 (2), 246 - 262.
- Brown, C. M. (1999). Information seeking behavior of scientists in the electronic information age: Astronomers, chemists, mathematicians, and physicists. *Journal of the Association for Information Science and Technology*, 50(10), 929.
- Brown, G. (2001). Locating categories and sources of information: How skilled are New Zealand children. *School Library Media Research*, 4(1).
- Bruce, C. (1997). *The Seven Faces of Information Literacy*. Blackwood: Auslib Press.
- Bruce, C. S. (2002). Information literacy as a catalyst for educational change: A background paper. White Paper prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on

Literacy, for use at the Information Literacy Meeting of Experts, Prague, The Czech Republic. <http://www.nclis.gov/libinter/infolitconf&meet/paper/bruce-fullpaper.pdf>

- Bruce, C., Edwards, S., & Lupton, M. (2006). Six Frames for Information Literacy Education: A Conceptual Framework for Interpreting the Relationships Between Theory and Practice. *Italics* , 5 (1).
- Bundy, A. (Ed.) (2004), *Australian and New Zealand Information Literacy Framework: Principles, Standards, and Practice*, 2nd ed., Australian and New Zealand Institute for Information Literacy, Adelaide.
- Byrne, A. (2003). Digital Libraries: Barriers or Gateways to Scholarly Information? *The Electronic Library* , 21 (5), 414-421.
- Byrne, A. (1999). Freedom of Access to Information and Freedom of Expression in a Pluralistic World. *IFLA Journal* , 25 (4).
- Carbo, T. (1997). Mediacy: knowledge and skills to navigate the information highway. *The International Information & Library Review*, 29(3-4), 393-401.
- Catts, R., & Lau, J. (2008). *Towards Information Literacy in the Workplace: Conceptual Framework Paper*. Paris: UNESCO Institute for Statistics, UNESCO.
- Clay, S. T. (2000). Mystery to Mastery: The CSU Information Competence Project. *Research Strategies* , 17 (2/3), 157-166.
- Curzon, S. C. (2000). Developing a Program of Information Literacy: How California State University Did it. *College and Research Libraries News* , 61 (6), 483-486.
- Curzon, S. C. (2004). Developing Faculty Librarian Partnerships in Information Literacy. In I. F. Rockman, & Associates (Eds.), *Integrating Information Literacy into the*

Higher Education Curriculum: Practical Models for Transformation (pp. 29-45).
San Francisco, CA 2945: Jossey-Bass.

Dadzie, P.S (2007)" Information Literacy: Assessing the Readiness of Ghanaian Universities". *Information Development*, 23 (4), 266-277.

Derakhshan, M., & Singh, D. (2011). Integration of information literacy into the curriculum: a meta-synthesis. *Library Review*, 60(3), 218-229.

Dorner, D.G. (2009), *The cultural context of information literacy*, Power Point Slides
Dorner, D.G., Gorman, G.E.(2006), Information literacy education in Asian developing countries: Cultural factors affecting curriculum development and programme delivery. *IFLA Journal*, (32)281-293

Eisenberg, M. B., & Berkowitz, R. E. (1990). *Information Problem Solving: The Big Six Skills Approach to Library & Information Skills Instruction*. Ablex Publishing Corporation, 355 Chestnut St., Norwood, NJ 07648.

Encyclopedia Britannica. *New Encyclopaedia Britannica (Revised Annually)* (15 ed.).
London: Encyclopedia Britannica.

Engelbert, H. (1974). Information Barrieren. *Informatik* , 21 (5), 51-4.

FAIFE. (2002). Libraries and Intellectual Freedom. Retrieved April 03, 2015, from <http://www.ifla.org/faife/faife/presen.htm>

Francke, H., Sundin, O., & Limberg, L (2011) Debating credibility: the shaping of information literacies in upper secondary school. *Journal of Documentation*, 67 (4), 675 – 694.

Galvan, J. (2006). *Writing Literature Reviews: A Guide for Students of the Behavioral Sciences* (3rd ed.). Glendale, CA: Pycszak Publishing.

- Gorman, G., Singh, D., & Tan, S.-M. (2012). Information Literacy Competencies Among School Librarians in Malaysia. *Libri* , 62, 98–107.
- Hamade, S. N. & Al-Yousef, S.(2010), " The use of information resources by LIS graduate students in Kuwait" *Library Review*, 59(5). 360-369.
- Hamilton, S., & Pors, N. O. (2003). Freedom of Access to Information and Freedom of Expression: The Internet as a Tool for Global Social Inclusion. *Library Management* , 24 (8/9), 407-416.
- Hannabuss, S. (2002). Legal (and Ethical) Comment. *Library Hi Tech News* , 19 (10).
- Hernandez, J.A.G& Urene, G.P.(2003)" Information Literacy developments and issues in Spain", *Library Review*, 52(7), 340-348.
- Hull, B. (2001). Can librarians help to overcome the social barriers to access? *New World* , 102, 110, 382-388.
- Idiodi, E. A. (2005). Approaches to information literacy acquisition in Nigeria.*Library Review*, 54(4), 223-230.
- Isfandyari-Moghaddam,A. & Kashi-Nahanji,V. (2011) "Does information technology affect the level of information literacy?: A comparative case study of high school students", *Aslib Proceedings*, 63 (6), 618 - 631.
- IFLA/UNESCO. (2001). UNESCO Public Library Manifesto. Retrieved April 03, 2015, from <http://www.ifla.org/VII/s8/unesco/eng.htm>
- Johnson, L., & Lamb, A. (2003). Evaluating Internet Resources. Retrieved 5 May 2016 from <http://eduscape.com/tap/topic32.html>

- Joroso, B. N., & Isaac, G. G. (2008). Teaching Information Literacy Skills in Community Junior High School in Gaboro, Botswana. *Information Development* , 24 (2), 123-134.
- Lamprey, F. O. (2008). Information Literacy Level Among Graduate Students of University of Cape Coast. University of Cape Coast, Ghana: (unpublished Masters Thesis).
- Lee, O. (2002). Dealing with Plagiarism in an Electronic Age. *Journal of Information Law and Technology* , 2, 32-35.
- Littman, J., & Connaway, L. S. (2004). A Circulation Analysis of Print Books and E-books in an Academic Research Library. *Library Resources and Technical Services* , 48 (4), 256-262.
- Lorenzen, M. (2003). Teaching and Learning on the Web. *Academic Exchange Quarterly*, 7(1). 3
- Lundh, A., & Limberg, L. (2008). Information Practices in Elementary School. *Libri* , 2, 92- 101.
- M, K. G., & Chege, A. (2013). Information Literacy Programmes in Selected Nairobi-Based Public and Private Universities in Kenya. *14th Annual IS Conference 2013: Information Ethics in Africa*. Nairo, Kenya: IS Conference.
- Marzena, W. (2011). Information Barriers in Libraries: Types, Typologies and Polish Empirical Studies. *Library Management* , 32 (6/7), 475-484.

- Maybe, C. (2006). Undergraduate Perceptions of Information Use: The Basis for Creating User-centered Student Information Literacy Instruction. *The Journal of Academic Librarianship* , 32, 79-85.
- McAdoo, M. (2008). *A Case Study of Faculty Perceptions of Information Literacy and its Integration into the Curriculum*. Indiana, PA.: Indiana University of Pennsylvania.
- McGuinness, C. (2006). What Faculty Think - Exploring the Barriers to Information Literacy Development in Undergraduate Education. *The Journal of Academic Librarianship* , 32 (6), 573-582.
- McGuinness, C. (2006). What Faculty Think: Exploring the Barriers to Information Literacy Development in Undergraduate Education. *The Journal of Academic Librarianship* , 32 573- 582.
- Meadows-Oliver, M. (2006). Homeless Adolescent Mothers: A Metasynthesis of Their Life Experiences. *Journal of Pediatric Nursing* , 21 (5), 340-349.
- MOE. (2010). Our ICT in Education Journey. Retrieved March 09, 2015, from <http://ictconnection.edumall.sg/cos/o.x?c=/ictconnection/pagetree&func=view&id=729>
- MOE.(2012). Secondary Education. Retrieved March 08, 2015, from [http://www.moe.gov.sg/education/secondary/Municipal Yearbook and Public Services Directory \(Annual\)](http://www.moe.gov.sg/education/secondary/Municipal Yearbook and Public Services Directory (Annual)). London: Municipal Journal Ltd.
- Newby, G. B. (1994). *Directory of Directories on the Internet: A Guide to Information Sources*. London: Mecklermedia.

- Nicholas, D., Clark, D., Rowlands, I., & Jamali, H. R. (2009). Online Use and Information Seeking Behavior: Institutional and Subject Comparisons of UK. *Journal of Information Science* , 35 (6), 660-676.
- Opendhiem, C. (2008) "Legal issues for information professional IX: An overview of recent developments in the law, in relation to the internet" *Journal of Documentation*, 64(6), 938-955.
- Owusu-Ansah, E. K. (2007). Beyond Collaboration: Seeking Greater Scope and Centrality for Library Instruction. *Portal: Libraries and the Academy* , 7 (4), 415-429.
- Owusu-Ansah, E. K. (2003). Information literacy and the academic library: a critical look at a concept and the controversies surrounding it. *The Journal of Academic Librarianship*, 29(4), 219-230.
- Parker, J. O. (2003). Putting the pieces together: information literacy at The Open University. *Library Management*, 24(4/5), 223-228.
- Pawley, C. (2003). Information Literacy: A Contradictory Coupling. *Library Quarterly* , 73 (4), 422-452.
- Pennell, (1999), "Advocating information literacy" The information literacy School Community: Best Practice, Centre for information Studies, Wagga Wagga 189-204.
- Pejova, Z. (2002), *Information literacy promotion and implementation: CEI countries perspectives*. Paper presented at Expert seminar IVIG 2005, Organised by Association of University libraries of the Czech Republic in cooperation with Institute for Information Studies and librarianship,
- Probert, E. (2009). Information Literacy Skills: Teacher Understandings and Practice. *Computers & Education* , 53, 24–33.

- Quality Assurance Agency for Higher Education. (2001). *Health Studies, Subject Benchmark Statement: Academic Standards*. London: QAA.AC.
- Rabin, J., & Cardwell, C. (2000), "Start making sense: practical approaches to outcomes assessment for libraries", *Research Strategies*, 17(4), 319-35.
- Razali, N., Ngah, N. A., & Masood, M. (2006). Designing and Developing Information Literacy Module Based on the Big 6 Skills for Resource Teacher. In F. M. Nadzar, L. Hashim, S. M. M, N. E. Nasir, N. Shaifud-din, N. A. Seman, et al. (Ed.), *International Conference on Information Literacy, 14-15 June*. Kuala Lumpur, Malaysia: MARA University of Technology.
- Rehman, S. & Alfaresi, S. (2009). "Information Literacy skills among Kuwaiti female senior high school students" *Library Review*, 58 (8), 607-616.
- Rockman, I. F. (2002). "Evaluate that information" *Reference Service Review*, 33(4) 369-370.
- Rothenberg, D. (1997), " How the Web Destroys the Quality of Students Research Paper." *Chronicle of Higher Education*, 44
- Rowlands, I. (2007). Electronic Journals and User Behaviour: A Review of recent Research". *Library and Information Science Research* , 29 (3), 369-396.
- Scholz-Crane. A. (1998), "Evaluating the future: A preliminary study of the process of how undergraduate students evaluate web source" *Reference Service Review*. 26 (3/4), 53-60. (Accessed 19 November, 2015).
- SCONUL. (1999). *Information Skills in Higher Education: A SCONUL Position Paper*. SCONUL.

- Sajjad ur Rehman, Sumayyah Alfaresi, (2009) "Information literacy skills among female students in Kuwaiti high schools", *Library Review*, 58 (8), 607 - 616
- Shakeri, S. (2010). *Approaches to Information Literacy Instruction in National Library and Archives of Iran*. Retrieved March 10, 2015, from www.bcr.puglia.it: http://www.bcr.puglia.it/tdm/documenti/workshop/2010/Rel/prima/Shakeri_Originale.pdf
- Shanmugan, A. (1999)." Information seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia" *Malaysian Journal of Library and Information Science*. 4(1), 1-26.
- Snaveley, L. (2001) Information Literacy Standards for Higher Education: An International Perspective, *67th IFLA Council and General Conference*, 16-21 August 2001: 1-4
- Sundin, O. (2008). Negotiations on Information Seeking Expertise: A Study of Web-based Tutorials for Information Literacy. *Journal of Documentation* , 64 (1), 22-44.
- Thompson, I. (1989). *The Documentation of the European Communities*. London: Mansell.
- Todd, R. (2000). A Theory of Information Literacy: In-formation and Outward Looking. In C. Bruce, & P. Candy (Eds.), *Information Literacy Around the World: Advances in Programs and Research* (pp. 163–175). Wagga Wagga, New South Wales: Charles Sturt University.
- Todd, R. (2003a). Learning in the Information Age School: Opportunities, Outcomes and Options. *IASL Conference*. IASL.

- Todd, R. (2003b). *Student Learning Through Ohio School Libraries: The Ohio Research Study*. Ohio: OELMA.
- Todd, R., Kuhlthau, C., & Tepe, A. (2004). 3,000 Students of Ohio tell their Story: Yeah, the School Library Rocks. *International Association of School Librarianship: From Aesop to e-book: the Story goes on*. Dublin, Ireland: IASL.
- Tuominen, K., Savolainen, R., & Talja, S. (2005). Information Literacy as a Socio-technical Practice. *Library Quarterly* , 75 (3), 329-345.
- UNESCO. (2006). *Information Literacy: Key for Lifelong Learning*. New York, NY, USA: UNESCO.
- Walraven, A., Brand-Gruwel, S., & Boshuizen, H. (2008). Information-problem Solving: A Review of Problems Students Encounter and Instructional Solutions. *Computers in Human Behaviour* , 24 (3), 623–648.
- Webber, S., & Johnston, B. (2003). Information Literacy: Standards and Statements.
- Whitaker. *Whitaker's Almanac (annual)*. London: Whitaker.
- Williamson, K. & McGregor, J.(2006). Information use and secondary school students: a model for understanding plagiarism. *Information Research*.12 (1).
- Who's Who (Annual)*. London: A & C Black.
- Wu, M. D., Huang, W. C., & Chen, S. C. (2006). Humanities scholars and databases for ancient Chinese books. *Journal of Library and Information Studies*, 4(1/2), 1-16.

Wu, M. D., & Chen, S. C. (2012, November). How graduate students perceive, use, and manage electronic resources. In *Aslib Proceedings*, 64(6), 641-652. Emerald Group Publishing Limited.

Yang, H. W. (1998). Information-seeking behaviour of the scientists. *Bulletin of Library and Information Science*, 25(24-43).

Zabel, D. (2004). A reaction to “information literacy and higher education”. *The journal of academic librarianship*, 30(1), 17-21.



CHAPTER THREE

METHODOLOGY

3.1 Introduction

Methodology refers to a framework that relates to the entire research process. Morse (2002) as cited by Bazely (2002) adds that, research methodologies use tools, instruments to facilitate understanding. Methodology provides a framework for replication and for constructive criticism. This chapter is referred to the framework that relate to the whole research process.

According to Jonker and Pennink (2010) methodology implies the way or route a research would need to take in order to achieve the needed results. The research methodology for this study deals with research design, population, sample size, sampling technique, instrumentation, pre-test study, mode of data collection, method of data analysis and ethical consideration.

3.2 Research Design

A research design is a plan of study providing the overall framework for collecting data. The function of a research design is to ensure that requisite data in accordance with the problem at hand is collected accurately and economically (Aina, 2002).

According to Creswell (2008) a research design is a systematic plan to study a scientific problem. The design of a study defines the study type (descriptive, correlational, semi-experimental, experimental, review, meta-analytic) and sub-type (such as descriptive-longitudinal studies) research questions, hypothesis, independent and dependent variables, experimental design, and if applicable, data collection methods and a statistical analysis plan.

A mixed method of both qualitative and quantitative was used for data sourcing. Survey research is an efficient method for systematically collecting data from a broad spectrum of individuals and educational settings. The researcher employed cross sectional survey for this study. Survey research involves the collection of information from a sample of individuals through their responses to questions. Creswell (2008) explains that, surveys are efficient in that many variables can be measured without substantially increasing the time or cost. Survey data can be collected from many people at relatively low cost and, depending on the survey design, relatively quickly.

Again, the survey research allows anonymity which makes respondents more candid in their responses. Surveys are more likely to provide accurate and reliable information than other types of research methodology, since confidentiality can be assured (Creswell 2008).

Lastly, survey methods lend themselves to probability sampling from large populations. Thus, survey research is very appealing when sample generalizability is a central research goal. Survey research is often the only means available for developing a representative picture of the attitudes and characteristics of a large population (Creswell 2008). Hence, the data collected will enable the researcher to generalize the findings from the sample results to the overall population.

3.3 Selection of Cases

The study sites involved two Senior High Schools in Kumasi. These schools are Opoku Ware senior high school and Yaa Asantewaa Girls' senior high school. The reason the researcher chose these schools is that, the two selected schools fall into categories "A" schools as specified by the Ghana Education Service (these categories depend on how well

endowed a school is in terms of number of facilities and learning resources) and both schools are also single sex.

The use of these two schools enabled the researcher to compare and contrast the results of the study on basis of the categorization and gender.

3.4 Selection of Subjects

3.4.1. Population

Population is the group of interest to the researcher and to which at the end of the research, the findings can be generalized. It should be the aggregate of all the cases that conform to some designated set of specifications (Creswell 2008). According to Davis et al., (2002), a population can be of any size and individuals in the population must have at least one or more characteristics in common. The population for the study was drawn from the two schools; Opoku Ware Senior High School and Yaa Asantewaa Girls Senior High school. The study was focused on only SHS3 Students. The study considered the final year senior high school students as the ideal population for two reasons. First, most of them will be entering the various tertiary educational institutions where their Information Literacy (IL) competencies could be considerably affecting their learning outcomes. The second reason is that, a number of tertiary educational institutions where they will seek to pursue higher education are running IL as a credit bearing course for which they may be expected to demonstrate basic competencies in order to pass the IL course.

The total population of SHS3 Students for the two schools stands at One Thousand, Six Hundred and Ninety Eight (1,698), two (2) Head Masters, and two (2) library staff were included in the study. The Head Masters were included in the sense that, they will help in the advocacy for the incorporation of IL into the SHS curriculum. Information was also

sought from the library staff to ascertain whether they have the capabilities and skills to impart IL skills to the students.

The table below depicts the size of the population of SHS3 Students, two (2) Head masters, and two (2) library staff of the two schools under study.

Table 3.1: Population

No.	School	Population Size SHS3 Students
1	Opoku Ware SHS	1008
2	Yaa Asantewaa Girls' SHS	690
3	Head Masters	2
4	Library Staff	2
Total		1,702

3.4.2 Sample Size

According to Creswell (2008) sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In practice, the sample size used in a study is determined based on the expense of data collection, and the need to have sufficient statistical power. In complicated studies there may be several different sample sizes involved in the study (Creswell 2008).

Alreck and Settle (1985) and Fraenkel (1993), recommend a sample size of 10% of the population, which will ensure adequate confidence and adequate control of sampling error.

They further said that, only a small fraction of the entire population ordinarily provides sufficient representation of the group as a whole and enough accuracy to base decisions on the result with confidence.

The researcher selected One Hundred and Seventy (170) which constitutes 10% of the students' total population. The maximum practical size for a sample according to Alreck and Settle (1985) is 10% under ordinary condition. The sampling is only for students and the two (2) Head Masters, two (2) library staff were interviewed.

3.4.3 Sampling Technique

Convenience sampling technique was used to collect data from the students. Convenience sampling involves choosing the nearest individuals to serve as respondents and continuing that process until the required sample size has been obtained (Cohen & Manion, 1994). The researcher used proportionate sampling method to select the students to complete the questionnaire to help get the accurate representation for the total number of students offering a particular programme of study.

Using appropriate distribution sample formula as shown below,

Proportionate Sampling Technique

Where P_s = proportionate sample

$$P_s = \frac{\text{Total Class Size}}{\text{Total number of Students} \times \text{Sample size}}$$

Total number of Students \times Sample size

Total Number of students for OWASS = 1008

Sample size is 10% of the population which is $10 \div 100 \times 1008 = 101$ approximately

General Arts = 304, General Science = 499, Business = 179, Visual Arts = 26

$$304 + 499 + 179 + 26 = 1008$$

$$\text{General Arts} - 304 \div 1008 \times 101 = 30$$

$$\text{General Science} - 499 \div 1008 \times 101 = 50$$

$$\text{Business} - 179 \div 1008 \times 101 = 18$$

$$\text{Visual Arts} - 26 \div 1008 \times 101 = 3$$

Total = 101

Total Number of students for YAGSHS = 690

$$\text{Sample size is 10\% of the population } 10 \div 100 \times 690 = 69$$

General Arts = 211, General Science = 211, Home Economics = 79, Visual Arts = 25,

Business = 127, Agricultural Science = 37.

$$211 + 211 + 79 + 25 + 127 + 37 = 690$$

$$\text{General Arts} - 211 \div 690 \times 69 = 21$$

$$\text{General Science} - 211 \div 690 \times 69 = 21$$

$$\text{Home Economics} - 79 \div 690 \times 69 = 7$$

$$\text{Visual Arts} - 25 \div 690 \times 69 = 3$$

$$\text{Business} - 127 \div 690 \times 69 = 13$$

$$\text{Agricultural Science} - 37 \div 690 \times 69 = 4$$

Total = 69

Total sample size for students = 170

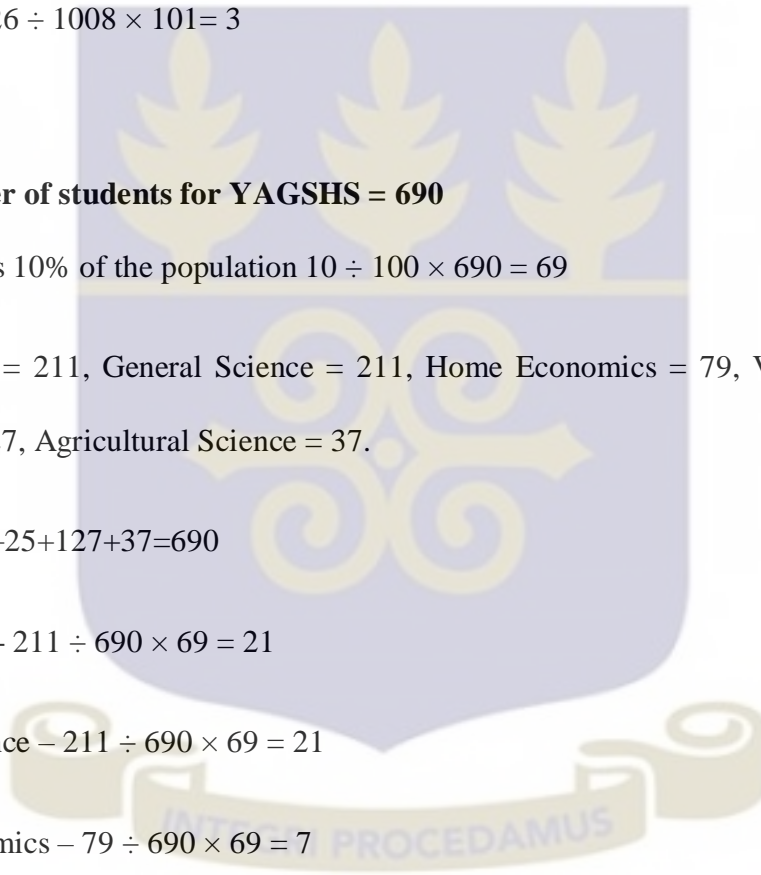


Table 3.2: Sample Size for Students

Opoku Ware	SAMPLE SIZE	Yaa Asantewaa Girls	SAMPLE SIZE	TOTAL SAMPLE SIZE
General Arts	30	General Science	21	51
General Science	50	Home Economics	7	57
Business	18	Visual Arts	3	21
Visual Arts	3	Business	13	16
		Agricultural Science	4	4
	101		69	170

3.4.4 Data Collection Instruments

Data for this study was collected through the use of questionnaires and interviews. Questionnaires and interviews were used for this study to solicit information from the students, Headmasters and library staff respectively. Questionnaires, both closed and open-ended were used to gather data from the students. Closed-ended questions, asks a question and gives the respondents fixed responses to choose from according to (Nueman, 2006), He also wrote that open-ended questions asks the respondents to give free answers from their own perspectives. Semi structured interviews were used for the head Masters.

The questionnaires were administered in the various classrooms of the students because by this method it was convenient and easier meeting them in their various classrooms. The interviews were conducted at the offices of the Head Masters and the library staff.

3.4.4.1 Questionnaire

A questionnaire is a well-known strategy of data collection used in the social sciences especially in large- scale surveys. It is very relevant especially when respondents cover a

wide geographical area such that interviewing all respondents is impossible as a result of limited resources. It is a form of questioning that is written, whereby questions are determined in advance by the researcher and usually the category of responses are also decided in advance. They could be open-ended where the respondent has the opportunity to answer in his/her own words or closed-ended where the respondent is obliged to choose from probable answers. They are very cost effective, easy to analyse, and reduce bias (Amekuedee, 2002).

The researcher adopted questionnaire for collection of data because the subjects were educated and therefore could conveniently read and understand and respond to the questionnaire at their own leisure. Further, questionnaires are cheaper and easy to administer and facilitated the data collection in a relatively short time, guarantee anonymity of the respondents.

Advantages of Questionnaire

Some of the advantages associated with the use of questionnaire are that; they are economical in the sense that they can supply a considerable amount of research data of a relative low cost in terms of materials, money and time. Questionnaires also have an advantage for the respondents, who, instead of needing to think of how to express their ideas, are faced with the relatively easy task of needing to pick one or more answers which are spelt out for them.

Disadvantages of Questionnaire

However, Carter and Williamson (1996), criticised questionnaires as having standardization so it is not possible to explain any points in the questions that the participants might interpret. They further stated that, open-ended questions for example, can generate large amount of data that can take a long time to process and analyse.

3.4.4.2 Pre- Testing

Pre-testing is the administration of the data collection instrument with a small set of respondents from the population for the full scale survey. If problems occur in the pre-test, it is likely that similar problems will arise in full-scale administration (OAC, 2007). Pre-testing identifies problems with the data collection instrument and finds possible solutions.

For the purpose of this study, a pre-test study was conducted using students of Prempeh College and Kumasi Girls Senior High schools all in Ashanti Region of Ghana. Forty (40) questionnaires were distributed to both schools by the use of random sampling technique among the form three students with the permission from the Assistant Headmasters academic from the two schools. The pre-testing proved to be worthwhile, because even though the respondents were able to understand and responded well to some of the questions, some aspects were not too clear for the respondents which helped the researcher to improve upon and reframing of the sentences and also helped in the correction of double numbering used earlier for the questionnaire. The researcher used the schools under study because of proximity and time constraints. They are also category “A” and single sex schools as well. The schools under study possess similar statuses and therefore provided very good basis for pre information. According to Bentil (2011) pre-test study helps to identify and eliminate ambiguous questions and duplications.

3.4.4.3 Interviews

Moser & Kalton (1971) describe survey interview as ‘a conversation between interviewer and respondent with the purpose of eliciting certain information from the respondent’. Interview is one of the major tools for seeking views from respondents. Semi Structured

Interview was used to solicit opinions from the two (2) head masters, and two (2) library staff of the two schools.

Advantages of Interview

One major advantage of interview is its adaptability. A skilful interview can follow up ideals, probe responses and investigate motives and feelings, which the questionnaire can never do (Bell, 2010).

According to Frankel and Warren (2000) advantages and disadvantages can be derived from using interviews. Some of the advantages are as follows;

- i. Interviews outline increases the comprehensiveness of the data and makes data collection somewhat systematic for each respondent.
- ii. Respondent's answers the same questions, thus increasing comparability of responses, data are complete for each person on the topic addressed in the interview and it reduces interviewer effect and biases when several interviewers are used.
- iii. Data analysis is simple, responses can be directly compared and easily aggregated and many questions can be asked in a short time.

Disadvantages of Interviews

Some disadvantages as given by Frankel and Wallen (2002), are as follows;

- i. Important and salient topics may be inadvertently omitted. Interviewer flexibility in sequencing and wording of questions can result in substantial different responses from different perspectives, thus reducing the comparability of responses.

- ii. Little flexibility in relating the interview to particular individuals and circumstances, standardized wording of questions may constrain and limit naturalness and relevance of questions and answers.

The researcher used four days to collect data from both schools under study. The questionnaire was divided into five (5) sections and had twenty eight (28) questions. Section A sought information on biographic data, section B was based on access and use of information, section C covered evaluation of information sources, and section D dealt with the legal and ethical use of information and finally section E covered barriers to effective use of information.

3.4.4.4 Mode of Data Collection

Survey questionnaire can be administered in two ways. They are the self-administered or mail surveys. According to Bentil (2011) the self-administered questionnaire survey is the process whereby the researcher either personally or with the help of assistants gives out the questionnaire to the participants to fill. The mail survey method is the process whereby the researcher mails the questionnaire directly to the participants for them to complete and return, usually in their leisure time. However, for the purposes of this study, the researcher used the self-administered questionnaire. The researcher personally visited the various classrooms of the schools to administer the questionnaires with the assistance of the teachers and conducted the interviews with the head Masters and library staff by herself.

3.4.4.5 Sources of data

Data collection was done by combination of both primary and secondary sources. The primary sources consist of the questionnaire and the interviews conducted and the

secondary sources consist of data emanated from previous works which includes: reports, books, journals, magazines, electronic databases and other related resources that were deemed right for the study.

3.5 Ethical Considerations

Fraenkel and Wallen (2000) states that “all subjects should be assured that any data collected from or about them would be held in confidence”. The study ensured that all ethical issues bordering confidentiality and anonymity of participants were adhered to. The University of Ghana’s code of ethics was also adhered to. Letters from the Department of Information Studies were taken to seek permission from the administrators of the two institutions under study as well as participants before data was collected.

3.6 Data Analysis and Presentation

The Statistical Package for Social Sciences (SPSS) was used to analyze the data collected from the respondents. According to Healey (1993) SPSS is the most widely used statistical software in the social sciences especially for quantitative study. The questionnaire results were presented showing simple frequencies, percentages, of the responses given by the respondents in the form of tables and graphs. The results were also organised under the themes of the objectives of the study. The interviews with the head masters and library staff were first coded, captured, and analysed manually using content analysis. According to Stember (2001) content analysis can be defined as a systematic, replicable, technique for compressing many words of text into fewer content categories based on explicit rule of coding.

REFERENCES

- Aina, L. O. (2004). *Library and information science text for Africa*. Ibadan: Third World Information Services Limited. p 12-13
- Andres, L (2012). *Designing and Doing Survey Research*, London: Sage Publications Ltd.
- Asante, E. (2000), *Research Writing: A Brief Guide*. Accra: Africa Christian Press.
- Atreck, P., & Settle, R. B (1985). *The Survey Research handbook*. Illinois; IRWN p29
- Babbie, E. (2005). *The Basics of Social Research*. (3rd ed.). Australia; Thompson p119-220
- Bell, J. (2010). *Doing your research project: a guide for first-time researchers in education, health and social science*. (5th ed.). New York: McGraw-Hill.
- Bentil, W. (2011). *The Use of Electronic Resources in Ghanaian Universities: a comparative study of the University of Cape Coast and the Central University College* p74
- Carter, M.P., & Williamson, D. (1996). *Questionnaire Design*. Staffordshire University Business School, Leek Road, Stoke-on Trent ST4, U. K.
- Cohen L., & Manion, L. (1994). *Research methods in Education*, (4th ed.). 11 New Fetter Lane, London: Routledge.
- Creswell, W. J (2009) *The Research Design: qualitative, quantitative and mixed methods approaches* 3rd ed. Los Angeles SAGE Publications. 34-36.
- Denscombe, M. (1998). *The Good Research Guide for Small- Scale Social Research Project*; Buckingham: Open University Press. 87-10.

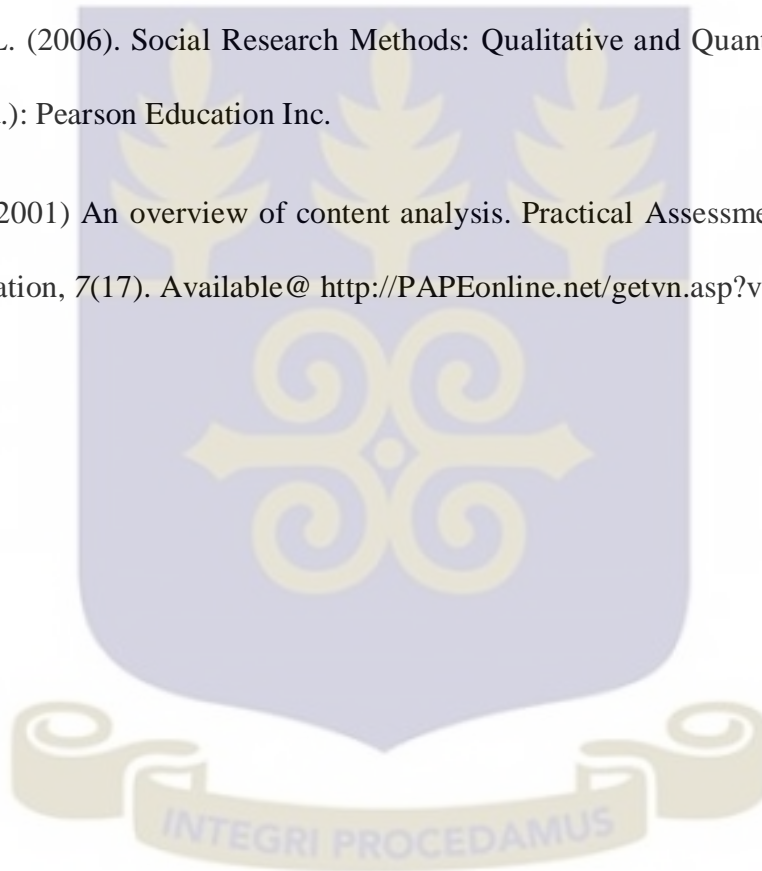
Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*, (4th ed). Boston: McGraw- Hill. p. 43, 44, 104, 119-166.

Kumar, R. (2005). *A Research Methodology: a step by step guide for beginners*, (2nd ed.). London: SAGE Publication p332.

Kumekpor, T. K. B. (2002). *Research methods and techniques of social research* Accra: Son Life Services, 24-25, 117-136, 155.

Neuman, W.L. (2006). *Social Research Methods: Qualitative and Quantitative Approach* (6th ed.): Pearson Education Inc.

Stember, S. (2001) An overview of content analysis. *Practical Assessment, Research and Evaluation*, 7(17). Available@ <http://PAPEonline.net/getvn.asp?v=7&n=17>.



CHAPTER FOUR

ANALYSIS OF DATA AND FINDINGS

4.1. Introduction

This section contains the analysis of data, and the discussion of the findings. The data has been analyzed and exhibited under five topical areas. The first theme gives an outline of the demographic attributes of respondents. The other four themes covered access and use of information, evaluation of information sources, legal and ethical use of information, and barriers to effective use of information.

4.2 Background of the respondents

To comprehend the background of students of Yaa Asantewaa Girls' Senior High School and Opoku Ware Senior High School in Kumasi, data on the ages of respondents and the programs offered in the school were obtained.

4.2.1 Age of Respondents

The table below established the age of students of both schools (Table 4.1).

Table 4.1: Age of Respondents

Age Range	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
12 to 14 years	0	0	0	0	0	0
15 to 17 years	59	85.5	77	76.3	136	80
18 to 20 years	10	14.5	24	23.8	34	20
Total	69	100.0	101	100.0	169	100.0

Source: Field data, 2016.

Looking at the ages of respondents in the table above (Table 4.1), it shows that the majority of the respondents who responded to the questionnaire were between 15 to 17

years. Ages 15 to 17 contributed a total of 80% of the respondents. This is followed by respondents of 18 to 20 years, which constitute a total of 20%. This information was found in both schools.

4.2.2 Program of study

The table below established the programmes offered by students of both schools (Table 4.2).

Table 4.2: Program of Study

Programmes	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Science	21	31.9	50	49.5	71	36.3
Agric science	4	5.8			4	3.5
General Art	21	29	30	29.7	51	27.3
Home Economics	7	10.1			7	12.5
Visual Arts	3	4.3	3	3	6	5.1
Business	13	18.8	18	17.8	31	15.3
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

In Table 4.2, though majority of the students offered Science and General Arts, students from all programmes were represented in the study. This demonstrates that students from different program groups were fairly represented in the study. However, looking at the percentages, more males offer Science programme than females.

4.3 Students Access and Use of Information

This section of the analysis explored the requisite skills of students on how to access and use the needed information effectively. Thus, data on availability of a library, frequency of

visit to the library, purpose of visit, availability of Library periods on timetable, library instruction or orientation, information sources available in the library and knowledge of the sources in finding information were analysed.

4.3.1 Frequency of Visit to the Library

The researcher looked for the opinion of respondents on how often or frequently they visited the library. The result has been displayed in Table 4.3 below;

Table 4.3: Frequency of Visit to the Library

Frequency of visit	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Every day	2	2.9	12	11.9	14	8
Weekly	52	75.4	55	54.5	107	63.3
Monthly	5	7.2	20	19.8	25	14.7
Not at all	10	14.5	14	13.9	24	14
No response	0	0	0	0	0	0
Total	69	100.0	100	100.0	170	100.0

Source: Field data, 2016.

In Table 4.3, a high proportion of students of both schools (63.3%) and (14.7) visited the library weekly and monthly respectively. 14% of the respondents from both schools had not visited the library at all. These results meant that students of both schools were serious with the use of the library and therefore value its importance.

4.3.2 Purpose of Visit

The purpose of visiting the library according to students from the two schools is explained in Table 4.4 below.

Table 4.4: Purpose of Visit

Purpose of Visit	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Read my notes	3	4.3	10	9.9	13	7.6
Read story books	22	31.9	13	12.9	35	20.7
Read textbooks	4	5.8	11	10.9	15	8.8
Search for info for my coursework	31	44.9	66	65.3	97	57.4
None response	9	13	1	1	10	5.9
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

On why students visited the library, it is clear from Table 4.4 that the greater part of the respondents (57.4%) and (20.7%) visited the library for the purposes of reading of story books and research respectively. In spite of this, almost all those who indicated they visited the library at least went there to do knowledge related activities. This result reveals that students of both schools knew why they visited the library and this implies that they visited the library for acceptable purposes.

4.3.3 Library Periods on Timetable

The study also interrogated the perspectives of respondents on the availability of library periods on the school timetable (Table 4.5).

Table 4.5: Availability of Library Periods on Timetable

Responses	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	58	84.1	14	13.9	72	42
No	11	15.9	87	86.1	98	58
None response	0	0	0	0	0	0
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

Clearly, Table 4.5 showed that a little over half (58%) of the students from both schools pointed out that their school do not have library periods on their timetable, while little below half (42%) answered in the affirmative. Further, a split observation of the data from

the two schools showed that with Yaa Asantewaa Girls school, 84.1% of the student indicated the availability of library periods on the school timetable, whereas, for Opoku Ware Senior High 86.1 answered in the negative.

Hence, in light of the information gathered from the field, it is evident that both schools have different perceptions about the importance of the library as an essential element to be incorporated in the school timetable. The explanations behind the absence of the library periods on the school timetable in Opoku Ware Senior High could be a direct result of the poor picture and state of mind of Ghanaians towards libraries in general.

4.3.4 Library Instruction or Orientation

Perhaps library orientation could be a substitute or a top up in educating students on relevance of libraries. Thus, in ‘Yes’ and ‘No’ question, the study also sought to find out whether students receive library instruction or orientation (Table 4.6).

Table 4.6: Library Instructions or Orientation

Library Orientation	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	31	44.9	53	52.5	84	49.4
No	38	55.1	48	47.5	86	50.6
No response	0	0	0	0	0	0
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

According to the results above, the aggregate majority of the respondents from both schools (50.6%) pointed out that their schools do not take them through library instruction and orientation. However, data from OPWSHS indicated a ‘yes’ response. This means OPWSHS as a school, gives library orientation as opposed to the situation in YAGSHS. .

This result implies that either students naturally do not attend a library orientation or there is no proper channel of conducting the activity.

4.3.5 Kind of Library Orientation or Instruction

For those who answered ‘yes’ to the question above, they were asked to tell in an open ended question the kind of library training they received and the following constitute the responses from both schools.

4.3.5.1 Take care of books

Taking care of books and treating these books in a proper manner were some of the training students from both schools were taught during library orientation and instruction.

This is what some of them had to say;

‘How to treat and take care of books’

‘How to handle books’

4.3.5.2 Library Etiquette

Library etiquette was also one of the principles some of the students from both schools remember they learned. To quote some of them directly

‘They teach us the dos and don’ts of the library’

‘I remember we were taught how to behave in the library, like keep quiet, no food and water in the library’

‘The importance of the library’

‘No noise and roaming about in the library’

4.3.5.3 Searching for information

Information retrieval is a key component of library usage and therefore from the evidence gathered, students from both schools said that they were actually trained on how to search for information in the library and books as well.

*'We were taught how to use an encyclopaedia'
'How the search for books on the shelf''*

'We were taught how to browse through the shelves'

On the other hand, those who answered 'NO', meaning they did not receive any library training, indicated how they were able to use the library without any difficulty. The following constitute some of the responses from both schools.

4.3.5.4 Previous knowledge

Some students acquired information themselves on how to use the library without any difficulty and a direct quotation from some of their responses below tells it all

*'We were taught how to use the library during our JHS days and so that is what I apply in using the library here'
'I was taught in my forma school (sic)'*

4.3.5.5 Through consultation

Some students indicated they received guidance on how to use the library from teachers and friends as well as seniors. A direct quotes from some of the students were as follows:

*'Seniors on campus guide me'
'I get help from teachers and friends'
'I get assistance from my colleagues'*

4.3.5.6 The Internet and textbooks

Others also indicated that with the absence of library orientation and instruction, they got knowledge on how to make use of the library from the internet and textbooks, though they did not indicate how they do that. To them the internet is their first call on issues that borders on information regarding their course of study. Here are some few direct quotes from the respondents from both schools.

'I use the internet to find the information I want or need when I am unable to use the library'

'The skills is gotten from computers'

'The book shelves have subject name attached to them and so that is what i use to search for information'

4.3.5.7 Intuition

The instinct of some the students from both schools also guide them on how to use the library or search for information. Here are some few direct quotes from the respondents from both schools.

'I take any book and read'

'I use my intuition to guide me get the right book to read'

4.3.6 Availability of Information Sources in the Library

This aspect of the question sought to find out the awareness of students of OPWSHS and YAGSHS with regard to the information sources available in their library and Table 4.7 and 7b shows the results.

Table 4.7: Information Sources Available In the Library

Library	YAGSHS		OWSHS	
	No. of yes	%	No. of yes	%
Dictionary	56	81.2	92	91.1
Encyclopaedia	19	27.5	60	59.4
Directory	12	17.9	13	12.9
Almanac	13	18.8	11	10.9

Source: Field data, 2016.

From the findings, the majority (81.2%) of the respondents from Yaa Asantewaa Girls SHS ticked ‘dictionary’ in addition to other information sources, while majority (91.1%) of the respondents from Opoku Ware SHS ticked ‘dictionary’ in addition to other information sources as well. This means that the dictionary is the dominant information source available in their libraries. It could also mean that students are either not familiar with other information sources in the library or dictionary is the most readily available information source.

4.3.7 Knowledge of the sources in finding information

To test the ability and knowledge of the students in finding information using the various sources, respondents were to indicate which sources they would employ in finding information on general background information, names and address of people and places, meaning of a word, miscellaneous information. Table 4.8a b, c, and d depict the results.

4.3.7.1 General Background Information

The subjects of the study responded to questions on what sources they would use to find general background information (Table 4.8a, b, c, d, and e).

Table 4.8a: General Background Information

Library	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Dictionary	3	4.3	6	5.6	9	5.3
Encyclopedia	39	56.6	53	52.5	92	54.2
Almanac	7	10.1	16	15.8	23	13.5
Directory	17	24.6	22	21.8	39	22.9
No response	3	4.3	4	4	7	4.1
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

The result from Table 4.8a shows clearly that some of the respondents were actually confused about the sources to use to find information about general background information. Thus, the findings showed that (54.2%) of the respondents from both schools got the answer correctly which is ‘encyclopaedia’. For those who got the answer correctly, the reason could be that they guessed or they actually knew the answer already.

4.3.7.2 Names and addresses of people and places

The study sought to find out the knowledge of students with regard to the sources they would use to locate the names and addresses of people, and places (Table 4.8b).

Table 4.8b: Names and Addresses of People, Places

Library	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Dictionary	3	4.3	1	1	4	2.4
Encyclopedia	6	8.7	12	11.9	18	10.6
Almanac	33	47.8	28	27.7	61	35.9
Directory	24	34.8	56	55.4	80	47.1
None response	3	4.3	4	4	7	4
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

Again the data revealed the ignorance of the students with regard to the answers they provided. Whereas only 34.8% of YAGSHS got the answer right, 55.4% from OWSHS

also got the answer correct. Guess work and lack of proper knowledge of information sources could be the reason for some of their answers.

4.3.7.3 Meaning of a Word

Students from both schools were tested on the same issues, namely the sources they would use to find information on the meaning of a word (Table 4.8c).

Table 4.8c: Meaning of a Word

Library	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Dictionary	65	94.2	95	94.1	160	94.1
Encyclopedia	0	2.9	1	1	1	.5
Almanac	2	0	4	4	6	3.5
Directory	1	1.4	0	0	1	.5
None response	1	1.4	1	1	2	1.1
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

Though the researcher is not astonished at the answers in table 4.8c, respondents from both schools got it right this time which is ‘a dictionary’.

4.3.7.4 Miscellaneous Information

The last issue that tested the knowledge of students from both schools inquire the sources they would use to locate miscellaneous information; Table 4.8d shows the results.

Table 4.8d: Miscellaneous Information

Library	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Dictionary	5	7.2	4	4	9	5.3
Encyclopedia	23	33.3	33	32.7	56	32.9
Almanac	23	33.3	46	45.5	69	40.6
Directory	14	20.3	13	12.9	27	15.9
No response	4	5.85	5	5	9	5.3
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

With regard to the question above, the ignorance of the respondents was once again displayed. However, 66% (33.3% and 32.7% respectively) of students from both schools displayed some level of knowledge by indicating that they could find miscellaneous information in ‘an encyclopaedia’. The answers they provided cannot be described as coincidence.

4.4 Availability of Computer Laboratory

This question was to find out from the respondents of the two schools under investigation whether they have access to computer laboratory. Computers are the means through which students are able to access information electronically which is a necessary aspect of Information Literacy. Table 4.9 shows the results.

Table 4.9: Availability of Computer Laboratory

Computer Laboratory	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	66	95.7	100	99	165	97.1
No	2	2.9	0	0	2	1.2
No response	1	1.4	1	1	2	1.2
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

The responses clearly show that almost every one of the students was of the view that they had a computer laboratory. However, for those who indicated that they do not have a computer laboratory, created a little confusion in the mind of the researcher because the answers looked a little bit bizarre. This is because a check by the researcher revealed that the schools have computer laboratories, meaning these students appear not be concerned about the facilities around them in their respective schools.

4.5 Computer Connected to the Internet

A follow up question was posed to find out whether these computers were connected to the Internet and the responses showed that the cumulative majority (60%) from both schools replied in the affirmative. The findings are revealed in Table 4.10

Table 4.10: Computer Connected To the Internet

Internet connectivity	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	53	76.8	49	48.5	102	60
No	16	23.2	52	51.5	68	40
None response	0	0	0	0	0	0
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

A glance at the reactions from students of Opoku Ware School demonstrated that there was a sharp division on whether the school computers were connected to the internet or not. This could mean that either a section of the students do not use the school laboratory or the Internet connectivity is not always available or connectivity is often interrupted and therefore they could not boldly say they were connected to the Internet or not. This

therefore suggests that Yaa Asantewaa Girls SHS is ahead of Opoku Ware SHS as far as the Internet knowledge and use is concerned.

4.6 Accessing information from the Internet

Again, students were asked if they accessed information from the Internet. Accessing information from the internet has become very easy these days because of varied websites that can provide a lot of information. Table 4.11 shows the outcomes.

Table 4.11: Access Information from the Internet

Access to information from the Internet	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	20	29	30	29.7	50	29.4
No	22	31.9	47	46.5	69	40.6
Sometimes	26	37.7	23	22.8	49	28.8
No response	1	1.4	1	0	2	1.2
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

From table 4.11, a few (29.4%) respondents cumulatively from both schools indicated that they accessed information from the Internet, while a few (28.8%) indicated they sometimes accessed information from the Internet. This probably means that students are unable to access information from the Internet, inferring that they lack the requisite skills to access information from the Internet.

4.7 What they use the Internet for

A follow-up question posed to students found out what specific reasons inspire the students to use the internet. Table 4.12 shows the outcomes.

Table 4.12: What they use the Internet for

Internet use Reasons	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Play games	0	0	2	2	2	1.2
Search For Information	63	91.3	82	81.2	145	85.3
Email	2	2.9	8	7.9	10	5.9
Face book	1	1.4	9	8.9	10	5.9
No response	3	4.3	0	0	3	1.7
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

Strangely enough, the data indicated in Table 4.12 above shows that student's numbers in accessing information was not encouraging, 91.3% and 81.2% respectively students from both schools demonstrated that they used the internet to search for information, whereas the rest use the internet to send emails and go on Face book.

4.8 Most Visited Websites

The study figured out the preference of students from both schools with respect to the websites they use when on the Internet, Table 4.13 shows the results.

Table 4.13: Most Visited Websites

Preferred Websites	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yahoo	6	8.7	13	12.9	19	11.2
Google	56	81.2	71	70.3	127	74.7
Wikipedia	4	5.8	17	16.8	21	12.4
Others	0	0	0	0	0	0
No response	3	4.3	0	0	3	1.7
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

Google emerged as the number one website students from both schools. 81.2% and 70.3% respectively search for information on the websites or better still the most visited websites among the rest, followed by Yahoo which was (8.7% and 12.9% respectively) and etc.

4.9 Evaluation of Information Sources

This aspect of the analysis tested the knowledge of students with respect to how they would evaluate information sources for both print and electronic material. There are numerous information sources to search for information, such as web spaces and print sources. It is therefore very necessary for students to be circumspect about the authenticity and reliability of sources of information they use. There are a lot of pieces of information available online, it is important these students know how to evaluate any source of information to know the worth, and the reliability of that particular information being used for academic work.

4.9.1 Source of Additional Information

In order to determine how the students of both schools get additional information for their studies, Table 4.14 shows the results.

Table 4.14: Sources of Additional Information

Additional information	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Textbooks	44	63.8	72	71.3	116	68.2
Internet	22	31.9	27	26.7	49	28.8
News Paper	1	1.4	2	2	3	1.8
Journals	0	0	0	0	0	0
None response	2	2.9	0	0	2	1.2
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

The table above presents the percentages of respondents' additional sources of information for their studies. It can be seen from the table that 68.2% of the respondents from both schools got additional information from textbooks, followed by 28.8% who said they got additional information from the Internet. In other words, the Internet and textbooks served as an additional source of information. Newspapers and Journals were not so much a preference of additional sources of information.

4.9.2 Sources Authentication

The table below established whether students from both schools checked the sources or authors of the information they find before using them (Table 4.15).

Table 4.15: Sources Authentication

Sources Authentication	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes(Sources Checked)	47	68.1	59	58.4	106	62.4
No(Sources unchecked)	20	29	42	41.6	62	36.4
No response	2	2.9	0	0	2	1.2
Total	69	100.0	101	100.0	176	100.0

Source: Field data, 2016

The responses showed that the majority (62.4%) of the respondents from both schools indicated that they checked the sources or authors of the information they used, while a couple (36.4%) said they did not check the sources of information they used. The focus now is on those who answered in the affirmative.

4.9.3 Determining a Good Sources of information

The students were asked how they determine good sources of information to find out their level of information literacy. Students who answered the question of good source of information indicated the various ways, that is how they determined a good source of information and Table 4.16 below explains the reports from both schools.

Table 4. 16: Determining a Good Source

Determinants of a good source	YAGSHS		OWSHS	
	No. of yes	%	No. of yes	%
Check The authors name	25	36.2	41	40.6
Verify the Publisher	23	33.3	41	40.6
Country of Origin	16	23.2	26	25.7
Qualification of the Author	45	65.2	70	69.3
Popularity of Author	18	26.1	34	33.7
Data of Publication	22	31.9	38	37.6

Source: Field data, 2016

In evaluating the credibility of information source, there are several key areas to consider, and these are the authority of the author, the background of the publisher, the objectivity of the author, the quality of the work, the currency of the work and the relevance of the work. In view of this, respondents were asked how they determined a good source of information, 65.2%, 36.2%, 33.3%, 31.9%, 26.1%, 23.2% of students from Yaa Asantewaa Girls school students indicated they would use the qualification of author, author's name, publisher, date of publication, popularity of author, and country of origin respectively. Looking at the data, the majority of the students mentioned they would check the qualification of the author. Meaning students of Yaa Asantewaa Girls would consider the qualification of author more to determine a good source of information.

On the other hand, more of the students from Opoku Ware SHS indicated they would use the qualification of author, author's name, publisher, and date of publication, country of origin, date of publication and popularity of author respectively. This implies that students of Opoku Ware SHS to some extent would consider more the qualification of author, author's name, publisher in determining the right sources of information. Since authority

of the author, the background of the publisher, the objectivity of the author, the quality of the work, the currency of the work and the relevance of the work are key issues in evaluation a good sources, and not the place of origin and popularity of the author. To a large extent, more of the students got the answers correctly. Table 4.17 above explained it graphically.

4.9.4 Information on a Website

With reference to the earlier question, respondents were asked how they would be able to determine right information from a website, Table 4.17 shows the results.

Table 4.17: Information on Website

Information on website	YAGSHS		OWSHS	
	No. of yes	%	No. of yes	%
Website Popularity	26	37.7	47	46.5
Website always used by friends	12	17.4	32	31.7
The author of the information	21	30.4	25	24.8
The Currency of the information	8	11.6	17	16.8
Wider coverage	25	36.2	41	40.6
People have been mentioning the name of the website	6	8.7	27	26.7

Source: Field data, 2016

The finding from table 4.17 indicated that a third (37.7%) and less than a third of the respondents (36.2%) ticked ‘the popularity of the website ‘and ‘wider coverage’ respectively in addition to others as a means of evaluating information on a website. This means that students of Yaa Asantewaa Girls School would consider ‘the popularity of the website ‘and ‘wider coverage’ more as a way of knowing that the information on the websites is right or not.

On the other hand, the findings from table 4.17 indicated that a little below half (46.5%) and a little above a quarter (40.6%) of the students ticked ‘the popularity of the website’ and ‘wider coverage’ respectively in addition to others. This means that Opoku Ware SHS students would consider more ‘the popularity of the website’ and ‘wider coverage’ as a way of knowing that the information on the websites is right or not. The authority of the author of the web information, currency of the web information, and complete list of works cited, with reference credible and authoritative sources could be considered as a way of evaluating information on a website.

4.10 Legal and ethical use of information

The legal and ethical use of information was explored. This is to elicit from students, whether they had heard the term plagiarism, its meaning, and other related issues.

4.10.1 Knowledge of the Word Plagiarism

Table 4.18 demonstrates the reactions of students from both schools about whether they had heard of the word plagiarism.



Table 4.18: Heard Of Plagiarism

Knowledge of the word plagiarism	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	29	42	20	19.8	49	28.8
No	38	55.1	78	77.2	116	68.2
No response	2	2.9	3	3	5	2.9
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

In order to ascertain whether students of both schools had heard the term ‘plagiarism’, respondents were asked to indicate their answers in a ‘yes’ and ‘no’ question. The aggregate majority (68.2%) of the students from both schools indicated that they had not heard of the term ‘plagiarism’, while a little below quarter (28.8%) answered they have heard of the term.

4.10.2 The meaning of plagiarism

A follow up question posed to those who answered in the affirmative saw various answers as far as the term plagiarism is concerned. Thus, for those who answered yes to the previous question have some idea with regard to what the term plagiarism means. Here are some few direct quotes from some segment of respondents from Opoku Ware Senior High School.

‘The use of another person work to do your own work’

‘Copying another person’s ideas, work, and words and pretend it’s your own’

‘The use of somebody’s work and presenting it as your own’

‘Stealing the works of others and claiming that it is your’

‘Taking part or whole work of a person without acknowledging the person’

'It simply explains how certain people or organisation makes duplicate of the people creation and claim it as their own creation'

'Taking a person art work and selling them as your'

'Claiming something such as title of a book, story etc which does not belong to you as yours'

'The act of breaking copy right law'

These explanations quite explain what the concept plagiarism actually means to some extent. Since plagiarism is considered as an academic dishonesty, the researcher agrees with these definitions and explanations given by students of Opoku Ware Senior High School. However some of the explanations did not seem to go down well with what actually plagiarism means. Here are some few direct quotes from some section of respondents from Opoku Ware Senior High School.

'It the situation where other people use the book written by authors for themselves without the knowledge of the author'

'It is the use of part of an intellectual work without the permission of the owner'

'Using a different name for your books aside your original name'

'Copying others peoples work'

'Using a person's product without his or her knowledge'

From the explanations given, though plagiarism is an ethical offence under academic code of conduct which is presenting the work of another person as one's own without proper acknowledgement, does not actually require the permission of the originator of an idea, knowledge of the owner of an idea before a work can be used. Though some section of the students attempted to explain this concept, it clearly confirms most of the students from Opoku Ware Senior High School do not really have a full grasp of this term.

On the other hand, the few students of Yaa Asantewaa Girls Senior High School who answered yes to this question did very well in their explanations as to what plagiarism means. Here are some few direct quotes from some section of respondents from Yaa Asantewaa Girls Senior High School

'It is the unauthorised use of an artistic work created by someone else'

'It is the practise of copying someone else work and claiming ownership for it'

'Stealing peoples work without permission and presenting it as your own'

'The copying or claim of a published work as one's even when it is for someone else'

'Claiming ownership of another person's work'

'It's the act of copying another person's ideas and pretend it's your'

'It means claiming ownership of a person's work'

'Act of copying other people's words and saying it is yours'

'It is the state whereby one copy another person's idea works and pretend to be yours or own idea'

'Copying the peoples creation and pretend that you are the creator'

4.10.3 Acknowledgement of Authors of Books

Again, on the legal and ethical use of information, respondents from both schools were asked whether they acknowledged the authors of books in their work (Table 4.19).

Table 4.19: Acknowledgement of Authors

Acknowledgement of Authors	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	46	66.7	66	65.3	112	65.9
No	20	29	32	31.7	52	30.6
None response	3	4.3	3	3	6	3.5
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

Acknowledgement of authors of books determine a person's understanding of what constitutes plagiarism and therefore the responses showed that over half (65.9%) of the respondents from both schools acknowledged the authors of books in their work or assignment, whereas, a quarter 30.6% indicated they did not acknowledge the authors of books they use in their work or assignment.

To ascertain why students would acknowledge sources they used as a means of trying to know if they understood what it meant to acknowledge sources, students were asked to state in an open ended question, their choice of answers they provided in the previous question and for Opoku Ware Senior High School students this is what they had to say;

'So as not to infringe on copy right laws'

'It is illegal to use someone's work and not acknowledge'

'It shows the admiration of respect one has for the authors work'

'It helps us to learn new words and also construct well grammatically sentences'

'According to copyright laws the author of the book has all the right to sue you in court'

'To make people sure about the source of your information'

'It is because you will be sanction if you don't acknowledge them'

From the responses, admiration for the intellectual property owner, the fear of being sued in court or sanction were some of the reasons students would acknowledge the work of others. Further, among the reasons given, *'it is illegal to use someone's work and not acknowledge and to make people sure about the source of your information'* stands out as better reason compare to the others.

However, for Yaa Asantewaa Girls SHS respondents who answered the question said the explanation for the acknowledging the sources they use were as follows;

'Because the content of the book tell me the pedigree of the author'

'It makes my work better from that of my friends'

'Because you cannot use information from a book without acknowledging it'

'It is use to inform people about the quality of the work'

'It because I spent credit before getting such information'

With the exception of *these two responses, that is, 'because you cannot use information from a book without acknowledging it' and 'It is use to inform people about the quality of the work'* the rest of the reasons they gave were somehow not acceptable. All these responses from students of Yaa Asantewaa Girls clearly demonstrate deficiency of knowledge and ignorance with regard to acknowledging sources.

4.10.4 Knowledge of the term Copyright

Furthermore, on the lawful and the moral utilization of information, respondents from both schools were asked whether they had heard the word copyright, Table 4.20 shows the results

Table 4.20: Knowledge of the Term Copyright

Knowledge of the term Copyright	YAGSHS		OWSHS		Total	
	No.	%	No	%	No.	%
Yes	55	79.7	87	86.1	142	83.5
No	13	18.8	13	12.9	26	15.3
None response	1	1.4	1	1	2	1.2
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016.

With this question, the aggregate majority (83.5%) of the students from both schools showed that yes, they had heard about of the term copyright, while a few (15.3%) were fair with their reactions by saying they knew nothing about copyright.

A Follow up on the above question, respondents from both schools were asked to explain in their own words what copyright meant and the following constitute their understanding.

'The legal right to control the production and selling of a book, play or film'

'It is the right that authors have over a book which prevent others from copying'

'The right that an author has which prevent other people from copying it or making copies'

'It is the legal right to have control over the work of a writer or musician'

'Copyright is the legal right given to authors to publish or perform a work with which other people must ask permission'

'It is the right which does not allow people to copy intellectual properties such as books music and movies'

'A legal right of an author to protect his or her product from other people'

'The legal right to publish or copy other people's work with their permission'

'It is the law use to protect the intellectual work of authors and publishers'

'An exclusive legal right given to owners, author, publishes in other to protect their creative work'

'Copyright is having a piece of work registered in your name as the owner'

From the responses I must say students of Opoku Ware SHS did very well with their explanations of what constitute rights though the explanations were half complete. In fact, they demonstrated some ideas as regard the term copyright. Copyright is a legal right created by the law of a country that grants the creator of an original work and rights to its use and distribution, usually for a limited time. The exclusive rights are not absolute; they are limited by limitations and exceptions to copyright law, including fair use.

On the other hand, the same can be said of students of Yaa Asantewaa Girls and this is what they had to say;

'It is the legal right placed on a work to protect it from other intruders'

It the legal right which protect properties from being duplicated

Making a duplicate or a copy of a document which have been registered by law

An exclusive right which protect the work of an author

It the right from government to authors for protecting their work from being stolen

Asking permission from the original sources to use a work to create yours

It is the right the protect authors work from being infringed or pirated

It means copying ones copyrighted work

It is the law that protect the author and his or her work

It is the law that protect an authors creation

It is a law that protects people intellectual properties such as logo, title of books etc

A licensed work belonging to somebody which can't be copied, duplicated or altered without that persons knowledge

The response clearly shows the level of understanding of the concept copyright.

4.10.5 Photocopying a whole Book

Photocopying a whole book was another question, respondents had to answer and Table 4.21 demonstrates their responses.

Table 4.21: Photocopying a Whole Book

Photocopying a whole Book	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
Yes	16	23.2	23	22.8	39	22.9
No	52	75.4	77	76.2	129	75.9
None response	1	1.4	1	1	2	1.2
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

As indicated by the outcomes, most of the respondents from both schools 129 (75.9%) showed they do not duplicate a whole copy of a book, though, a quarter (22.9%) replied in the affirmative. Since the majority of respondents do not photocopy the entire pages of a book, the implication therefore is that probably either the students do not have access to a Xerox machine or the majority of them depended on notes taken in class.

4.10.6 Reasons for Photocopying

Resulting from the above, respondents from both schools were asked to demonstrate the explanation behind photocopying a whole book and the reactions are indicated in Table 4.22.

Table 4.22: Reason for Photocopying

Reasons for Photocopying	YAGSHS		OWSHS		Total	
	No.	%	No.	%	No.	%
The book was not available in the bookshops to buy	8	11.6	4	4.0	12	7.1
Very expensive	15	21.7	20	19.8	35	20.6
Not available in the library	5	7.2	0	1	6	3.5
The book is out of print	3	4.3	0	0	3	1.7
None response	38	55.1	60	76	98	57.6
Total	69	100.0	101	100.0	170	100.0

Source: Field data, 2016

It is clear from the table above that the majority (57.6%) of the students of both schools did not answer this question for reasons unknown to the researcher. However, a few (7.1%) and (20.6%) of the students who answered this said the book was not available in the bookshops to buy and very expensive respectively.

4.11 Barriers to effective use of information

4.11.1 Problems encountered in accessing information

The kinds of problem encountered in accessing information were the last on the list of questions, respondents answered and Table 4.23 shows the results.

Table 4.23: Problem Encountered In Accessing Information

Problems encountered in accessing information	YAGSHS		OWSHS	
	<i>No. of Yes</i>	<i>%</i>	<i>No. of Yes</i>	<i>%</i>
We do not have a library in the school	15	21.7	13	12.9
We do not have enough books in the library	22	31.9	36	35.6
Library staff is not helpful	11	15.9	18	17.8
I lost my library card and cannot borrow from the library	4	5.8	3	3
I owe library overdue fine	1	1.4	1	1
High cost of textbooks	28	40.6	36	35.6
No internet facilities in the school	12	17.4	27	26.7
Slow internet connectivity	24	34.8	36	35.6

Source: Field data, 2016

From the findings, the majority (35.6%), (35.6%) and (35.6%) of students of Opoku Ware SHS ticked lacked of books in the library, high cost of textbooks, and slow internet connectivity in the school in addition to others. Thus, though other barriers were ticked by students of Opoku Ware SHS as indicated, most of the students settled for lack of books, high cost of textbooks, and slow internet connectivity, implying that lack of books, high cost of textbooks, slow internet connectivity were some of the obstacles for students of Opoku Ware SHS in accessing information in the school.

On the other hand, the majority (40.6%), (34.8%) and (31.9%) of the students of Yaa Asantewaa Girls SHS ticked high cost of textbooks, slow internet connectivity and lack of books or not enough books in the library among others as some of the problems encountered. Thus, since both schools scored high on the cost of textbooks, slow internet connectivity and lack of books in the library, it simply means these obstacles stand out as the major barriers students encountered in accessing information.

4.12 Responses from Interviews with the library staff

Librarians are the touch bearers of information literacy programs and the researcher wanted to find few issues concerning their work in the library. Library staffs from both schools were therefore interviewed.

4.12.1 Background of Respondents

The demographic profile of the respondents interviewed on the subject matter varied in terms of years of educational level. This aspect will introduce these variables for their respective senior high schools, that is in terms of schools- Opoku Ware and Yaa Asantewaa Girls. Two library staff, one from each institution was interviewed

Staff 1 (Opoku Ware); 'Tertiary'

Staff 2 (Yaa Asantewaa); 'Higher National Diploma (Purchasing and Supply)'

Both Library Staff interviewed from the two schools were non-professional librarians and as the responses show they are educated but not actually qualified to man their respective libraries.

4.12.2 Kinds of Information Resources in the Library

Both staff of the libraries was asked to give a breakdown of information resources in their various libraries and this is what the two staff from the two schools had to say unedited:

Staff 1 (Opoku Ware); 'Newspapers (Graphic and Ghanaian Times), Journals, and Other educational Materials'

Staff 2 (Yaa Asantewaa); 'Novel, textbooks, and other reading materials'

Thus the finding show in no uncertain terms that newspapers, textbooks, and story books were the materials found in the libraries of both schools.

4.12.3 Formal Training in Librarianship

Staffs from the two schools were asked if they had had any formal training in librarianship and all answered in the negative, however, the staff from Yaa Asantewaa Girls indicated that she was a national service person and not a permanent staff. This implies that the two schools had no professionals managing the libraries.

4.12.4 Workshop, Seminar or Training on Information Management

The staff of Opoku Ware SHS attended in-service training with the Ghana library board and gave examples of workshop attended at Kwame Nkrumah Science and Technology Main Library (KNUST). However, this cannot be said of the staff of Yaa Asantewaa Girls, who had already indicated earlier of being, a national service person. This is what respondents from *Opoku Ware* and *Yaa Asantewaa* respectively had to say unedited:

Staff 1 (Opoku Ware); 'Yes, I attend In-Service training organise by Ghana Library Board and I have ever attended a workshop at Kwame Nkrumah Science and Technology Library Department workshop on Internet use and Library Automation'.

Staff 2 (Yaa Asantewaa); 'No'

4.12.5 Library Orientation or Instructions to Students

Library orientation and instruction is the preserve of professional librarians or any trained person and therefore with this staff, the researcher enquired from them whether they give library orientation or instructions to students and this were their responses.

Staff 1(Opoku Ware); I give instructions to the students but not orientation. No.

Staff 2 (Yaa Asantewaa); ‘Not yet, besides I would not know how to go about it because I have no idea how things operate in the library here’

The staff of Opoku Ware said no but rather gives instruction and not orientation, while, the staff of Yaa Asantewaa Girls confessed that he had no idea about how to go about giving orientation or library instruction to students. Since he is not a permanent staff, it implies that the school must first employ permanent staffs that is either a professional or a non-professional and train this staff with skill to deliver.

4.12.6 Frequency of Orientation or Instructions to Students

For the staff of Opoku Ware who indicated earlier that he gives library instruction and not orientation to students said the instruction was not formal but as and when a student enters the library. That is, the instruction on how to look for resources in the library is spontaneous.

Staff 1(Opoku Ware); ‘When students enter the library I instruct them on how to use the library and how they can locate the books they are looking for’

However, they both gave reasons why they do not organise orientation session for the students

Staff 1(Opoku Ware); ‘No orientation because the school authority do not include the library in the orientation program for fresh students’

Staff 2 (Yaa Asantewaa); ‘Was recently posted here as a National Service Person who has no or little knowledge of operations of the library and as such makes it very difficult for me to undertake such duties’

From the responses Opoku ware emphatically exposed the school by saying that the school had no library orientation programme for fresh students. However, a proactive staff with the little training he had received could push the school authorities to understand the value of library orientation. Meanwhile, for Yaa Asantewaa Girls the library staff is just a new person in the information provision work and so could not tell if such programmes exist.

4.12.7 Materials in the Library

The researcher also found out from the two staff from the two different schools (Opoku Ware: Yaa Asantewaa) whether they have materials such Encyclopaedias, Dictionaries, Almanacs and other sources of information in their libraries and this is what they had to say;

Staff 1(Opoku Ware); ‘Yes’

Staff 2 (Yaa Asantewaa); ‘Yes, but only dictionaries and encyclopaedias’

They both answered in the affirmative; however, the staff from Yaa Asantewaa said they only had dictionaries and encyclopaedias. Further, they all said no instructions were given on how to use Encyclopaedias, Dictionaries, Almanacs etc. the implication is that, a library professional is needed in these schools to push the agenda of information literacy and when students are able to get the grasp of information literacy at the early stage of the educational life, they may grow up to be good appreciators of information.

The two staff mentioned during their interview that these resources such as Encyclopaedias, Dictionaries, and Almanacs were used by students when they need even though they found it difficult to use them. So mostly they resorted to the textbooks and dictionaries which were easier to use.

4.12.8 Library Automation and Internet Connectivity

The staff of both schools further said that the libraries in their respective schools were not automated and had no Internet connectivity. However, it is a known fact in Yaa Asantewaa and Opoku Ware that there are going to be E- library centres soon.

Staff 1(Opoku Ware); ‘the school has plans because there is a place allocated for a E- Library’

Staff 2 (Yaa Asantewaa); ‘No, but I heard something like there is going to a E- library soon’

4.13 Responses from Interviews with the Head Masters

To ascertain the veracity of the information available in their respective schools the head masters were asked whether they have enough resources in your library which satisfy the information needs of the students. Resources such as Dictionaries, Encyclopaedias, Directories, Almanacs, textbooks and others in the library and this is what they had to say;

Head Mistress 1(Yaa Asantewaa); ‘Yes, but most of them are too old and the school needs modern reading and reference books’

Head Master 2 (Opoku Ware); ‘Yes, but not adequate’

These answers showed that the resources were either too old or inadequate and must be replaced. With the forms of the responses given, it was realized that the materials in the library of both schools are not adequate to satisfy the information needs of the students and the head mistress of Yaa Asantewaa further stated that they needed modern materials to support subject taught at the school.

Further, the heads of both schools were also interviewed by the researcher and they added that the school libraries were unable to provide orientation services to the students because they do not have a qualified librarian to do that.

However, headmistress of Yaa Asantewaa Girls said that they have plans to hire a trained person because the regular library staff just started his retirement and that the Metropolitan Director has promised to give the school a qualified librarian.

4.13.1 Library Automation and Internet Connectivity

Moreover, the Head mistress of Yaa Asantewaa Girls schools indicated that they had developed an e-library centre and students were yet to use the centre, whilst that of Opoku Ware School said they had a computer laboratory which the students use during Information and Communication Technology class.

Head Mistress 1 (Yaa Asantewaa); 'the school currently has converted the old assembly hall into an E- Library. However, students are yet to use it because is it yet to be complete?'

Head Master 2 (Opoku Ware); 'Yes, students go to the computer laboratory when it is time for Information and Communication Technology class as indicated on their time table'.

A follow up question on whether these computers were connected to the Internet was asked and the following constitute their responses.

Head Mistress 1 (Yaa Asantewaa); Yes, they are.

Head Master 2 (Opoku Ware); Not yet

The answer by headmaster of Opoku Ware clearly implies that students were attending ICT class using computers which were not connected to the Internet.

4.13.2 Challenges in Accessing Sources of Information

The two headmasters answered questions with regard to the challenges the students were facing in their effort to access sources of Information and the following constitute their responses;

Head Mistress 1 (Yaa Asantewaa); 'Because there is no Internet connectivity at all parts of campus, most of the students are not able to access extra information so they use holidays to do their assignments on the internet at homes and in the various commercial Internet Cafés'

Head Master 2 (Opoku Ware); 'Inadequate computers and lack of Internet connectivity'

Lack of internet connectivity and inadequate information emerged as the major challenges students are facing in addressing the issue information access.

4.13.3 Suggestion to Information Literacy Program

The two head masters suggested and welcomed the idea that Information Literacy programs be incorporated into the curriculum of SHS.

Head Mistress 1 (Yaa Asantewaa); Yes

Head Master 2 (Opoku Ware); Yes

This is because in the view of the head mistress of Yaa Asantewaa, students of her school were not really information literate persons.

Head Mistress 1 (Yaa Asantewaa); 'Not really'

Head Master 2 (Opoku Ware); 'Yes, because they have access to gadgets which can easily be connected online to obtain information'

Contrary to the view of the head mistress of Yaa Asantewaa, the head master of Opoku Ware thought that his students were information literate because they had access to gadgets connected to the internet. This view from the head master was a little ambiguous because information literacy goes beyond gadgets possession.

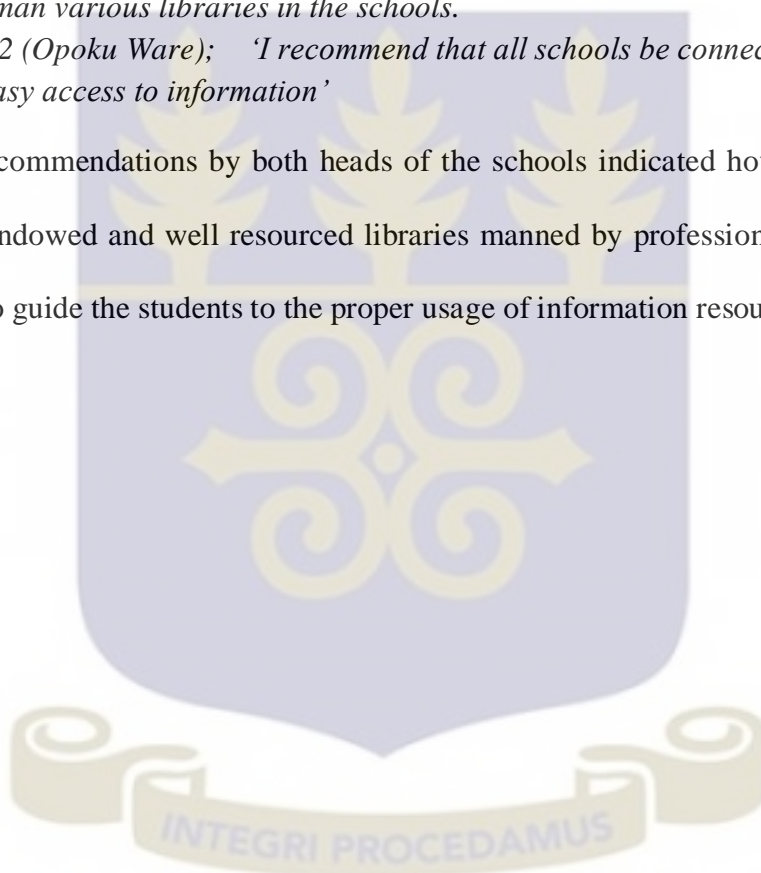
4.13.4 Head Master's Recommendations

The head masters were asked to freely think aloud by recommending the way forward. According to them in moving forward the government should be involved in training more qualified librarians to man the various schools especially Senior High Schools, whereas, Opoku Ware headmaster recommended that all schools be connected to the internet for easy access to information.

Head Mistress 1 (Yaa Asantewaa); 'Government should endeavour to train more qualified librarians to man various libraries in the schools.'

Head Master 2 (Opoku Ware); 'I recommend that all schools be connected to the Internet for easy access to information'

The above recommendations by both heads of the schools indicated how they wished to have a well endowed and well resourced libraries manned by professional librarians who will be able to guide the students to the proper usage of information resources.



CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

The study set out to assess the information literacy skills among students of Opoku Ware and Yaa Asantewaa Girls Senior High Schools in Kumasi. Some findings have been made and are discussed in this chapter. The discussion of the findings was based on the objectives of the study. The objectives were to determine whether Senior High School (SHS) students had the requisite skills to access and use the needed information effectively, to gather evidence of how SHS students evaluate information and its source critically, to ascertain SHS students' awareness of the legal and ethical implications of information use and to investigate SHS students' barriers to effective use of information. The discussion is presented under the following headings:

- i. Requisite skills to access and use the needed information effectively
- ii. Evaluation of information and its sources
- iii. Awareness of the legal and ethical implications of information use
- iv. Barriers to effective use of information

5.2 Requisite skills to access and use the needed information effectively by students

With this objective, the findings revealed first and foremost, that both schools have libraries and these libraries are to some extent well-stocked with relevant materials pertaining to the programmes offered in the schools. Furthermore, a sizeable number of students from both schools visit the library. This implies that most or majority of the students access their school libraries frequently, meaning the school libraries of both schools are well utilized, as opposed with what was found by Foo et. al. (2014) among Singapore Secondary school students, where school libraries were underutilized. In both

schools the purpose of visiting the library was to carry out information search on coursework and also to read notes and story books. This is very encouraging since it shows that students from Yaa Asantewaa Girls Senior High School and Opoku Ware Senior High School in Kumasi are aware of the importance of library to their academic performance. Additionally, the findings revealed that both schools do have library periods, though a little above half indicated they had library orientation periods and this explains the high patronage of the library by students from both schools. At this point, though this finding somehow contradicts to a research conducted by Foo et. al. (2014) one could only conclude that the conditions in Ghanaian and Singaporean Secondary schools may not be the same. This finding in the two Ghanaian schools is in line with ACRL (2006) Model ACCESS which states that an information literate student should be able to access the needed information effectively. Therefore the students from both schools are well aware of where to find and locate information when need be.

Furthermore, whereas the findings showed that some of the students were given orientation in the area of how to care for books, how to search for information, and library etiquette, others who answered in the negative pointed out that they used previous knowledge, intuition, consultation, the Internet and textbooks. Perhaps those students who were able to tell the nature and what they learnt during library orientation did so because they may be serious students who consider the library very important. The idea of using previous knowledge, intuition, and consultation to access materials in the library showed some form of laziness on the part of these students or probably because they did not attend orientation sessions or orientations is not compulsory.

Generally, the findings showed that though Dictionary-use prevailed as the most common information source available in the library, other sources such as Encyclopaedia,

Directory, and Almanac were also found in the libraries of both schools. Also, it is important to state here that students and Heads from both schools confirmed the fact of the presence of such important documents.

Moreover, specifically, the findings showed that an aggregate majority of students from both schools were able to tell which information sources to use to find information about general background information. This means most got it right when they ticked the encyclopaedia as a source. However, a substantial number of students were confused, implying they were never present during library orientation. It was also noted that library staff in the two schools especially in Yaa Asantewaa Senior High School were not in the position to direct students on the use of diverse information sources.

Further, students could not tell the sources to use to find names and addresses of people and places and miscellaneous information. This is reflected in the responses provided by students of Yaa Asantewaa Girls High School as majority of these students were totally ignorant of the sources to use for information on names, address of people and places. This demonstrates a lack of requisite skills to access and use information source effectively. This finding corroborates Hepworth's (1999) study of students in Singapore in which he found that students were unable to formulate an effective search. They tended to make a very literal interpretation of the question and started looking for materials that mention those words listed in the question (Hepworth, 1999). This finding also supports Rehman and Alferesi's (2009) conclusion that students in Kuwaiti high school showed some deficiencies in their information searching skills. It was discovered that majority of the students lacked basic skills in the use and search for information and most of all their capabilities in the selection and utilization of information sources was observed to be feeble and limited. However, though the majority of the students from Opoku Ware got it

right, this finding of the study is not in line with ACRL Theoretical Framework major areas one and two which are KNOW and ACCESS. This states that an information literate student must be able to acknowledge an existence of an information need and be able to access that information need. This situation leaves some serious questions about these students level of information literacy. This finding is also in line with Averill and Lewis (2013) which stated that, students at all levels of education do not choose the appropriate sources in search of information. The use of almanac was totally misconstrued when most of the students indicated that it could be used to find names and addresses of people and places. An Almanac contains brief statistical information and facts as well as miscellaneous information, both current and retrospective hence it cannot be used to locate names and addresses of people and places.

Nevertheless students of both schools demonstrated an overwhelming understanding of where to find the meaning of a word. With this, the researcher thinks it is because the use of dictionary is basic to all levels of education and therefore everyone will be able to get this right. In spite of all the positive discoveries above, the students still have limited knowledge of the sources in finding information, they were found to be deficient in knowing where to find information for different purposes. This exposes the weaknesses in their information literacy skills. This finding also corroborates a research conducted by Foo et. al. (2014) meant to assess Information Literacy skills among Singapore Secondary school students. It was found out that the assessment of IL skills among the students in terms of location, access, use of information and other skills stated by the ACRL Model were found to be unsatisfactory as each of the categories of the IL skills recorded below 50% out of the 100% maximum score. "Information literacy" according to (CILIP, 2004), is knowing when and why you need information, where to find it, and how to evaluate, use

and communicate it in an ethical manner. Information literacy (IL) is the ability to locate, access, search, evaluate and use information in various contexts (ALA, 1989).

5.2.1 Availability of Computer Laboratory and the use of the Internet

Another finding from this study was that students of Yaa Asantewaa Girls Senior High School and Opoku Ware Senior High School were a little bit exposed to the use of Information Technology (IT). Computer laboratories existed in these schools to assist students to be computer literates and in their search for electronic information. This confirms a comparative research conducted by Asfandyaru and Kashi (2011) between schools that use IT to search for information as against schools which do not have IT facilities. The present study also reports that IT plays an important role in the search of information and thereby increasing the level of IL of students. According to Hemandez and Urene (2003) ICT stands the chance of strengthening learning and compensating for the inequalities in information accessibility to prevent academic failures among other things. They therefore stressed the need for a wide range of ICT programmes to develop libraries in primary and secondary school levels. This is because without computer laboratories this need cannot be realised (Hemandez and Urene, 2003).

Besides, based on the responses with regard to computer laboratory, ICT cannot be an obstacle to information literacy in Yaa Asantewaa Girls Senior High school and Opoku Ware Senior High School because almost all the students indicated they have computer laboratories. However, the availability of these computer laboratories alone is not enough. Therefore, the contention that, one barrier to the efficient use and utilization of Information and Communication Technology (ICT) in developing countries is the relatively low level of information literacy among people by Pejova (2002) maybe a strong argument. He further stressed that without the ability of the people to manipulate

and use information effectively; investments in ICT for development projects may be wasted if not successful.

Moreover, having a computer laboratory without Internet connection is also not enough. The finding revealed that with Yaa Asantewaa Girls Senior High School the computers were actually connected to the Internet but according to the headmistress, students were yet to be allowed to access the e- resources, whereas in Opoku Ware Senior High School there was no Internet connection and this was confirmed by the interview granted by the headmaster. This suggests that students of Opoku Ware Senior High School without Internet connection may continue to underutilize the computer laboratory in terms of accessing of information online that is provided to them, resulting in a waste of resources with potentially serious repercussions for academic advancement.

Again, the finding revealed that students from both schools access information from the internet be it on campus or elsewhere, and they use the internet as a way of searching for information. It was observed that playing games, emailing and Face booking were not the reasons they visited the Internet. The study revealed that the most visited website was Google, followed by Yahoo and this discovery confirmed what Lewis (2013) said that students always rely on sources such as Google and this shows there exists a lack of IL. This really presents a lot of threats and therefore prevents students from becoming lifelong learners. The finding is in sharp contrast with what Nicholas et al. (200) Wu et al. (2006), Littman and Connaway (2004) and Slater, (2009) found. In fact their studies focused on university level education but can be applicable to this present study as well. Their studies show that students used more e-journals, e-books and periodicals than print books. Thus, at the secondary school level what was found is very encouraging and the researcher

thinks that if information literacy is introduced at the senior high level, students will be exposed to things like e-books, periodicals and e-journals.

5.3 Evaluation of information Sources

Additionally, the findings showed that textbooks and the internet served as sources of additional information. This confirmed the study by Nicholas et al (2006) that students use electronic sources to search for information. This finding is also in line with Wu et al. (2006) who found that some students prefer monographs and books. This finding also supports the work of Littman and Connaway (2004) which found out those students from the disciplines of computer science, medicine, education, and psychology prefer using e-books. Though the findings of these authors were discovered from tertiary levels of education, there was some level of correlation with what was found in the two senior high schools in Ghana.

There was a revelation that some of the students from Yaa Asantewaa Girls Senior High school and Opoku Ware Senior High School authenticate the sources of information when it comes to print format before they use them and they do that by checking the author's name, publisher, date of publication, and qualification of the author. Contrary to Francke, et. al.(2011) in assessing the credibility of sources by secondary school students in their research, the study provided that over 80% of the students evaluate their sources, an empirically based understanding of students information Literacy practice. This finding is in line with the ACRL standard EVALAUTE which states that information literate students must be able to evaluate information and its sources critically.

Thus, the finding showed a little imperfection in the answers they provided since it is only the authors' name, the publisher, and date of publication that really matters with print

documents as far as the two schools were concerned. Contrary to the above, Brarranoik (2001) in her research with high school students of biology found that over 80% of the students were more particular and concerned with the content of information and therefore recommended that teachers should rather give prominence to the process of information searching. It is noteworthy that this finding supports Asher & Duke,(2010) that student's exhibit difficulty in evaluating information sources.

On evaluating internet sources, the findings showed that whereas students of Yaa Asantewaa Girls Senior High School would consider attributes such as the popularity of the website, the author of the information, and wider coverage of the website as a way of knowing that the information on the websites is right or not, students of Opoku Ware Senior High School on the other hand, considered more, the popularity of the website, wider coverage and how often friends visited the website as a way of knowing that the information on the website is right or not. This again exposed the flaw of the students in evaluating internet sources. In evaluating the credibility of information source there are several key areas to consider, and these are the Authority of the author, the background of the publisher, the objectivity of the author, the quality of the work, the currency of the work and the relevance of the work. It is a known fact that not all information available and especially on the Internet is authentic. Studies on high-school students have found that they have difficulty evaluating the veracity and objectivity of information (Adams, 1999).

Heidi and Barker (2009) corroborate this finding because in their research into “how high school students evaluate information sources”, they found out that, most of the students viewed trustworthiness of information based on the website rather than the content of the information. This clearly shows the difficulty of these students in authenticating Internet sources.

Other works also show similarities to this finding. Barranoik (2001) Fidel, Davies and Douglass, (1999), and Scott & O'Sullivan (2005) found out that, students demonstrate poor search skills, which include selecting search terms, evaluating websites, and appropriately citing sources. Similarly, Brem, Russell, and Weems (2001) report that, high-school students were unable to distinguish credibility of web sites. Heidi and Barker (2010) note strongly that evaluating the website alone is a risky practice and that the students need to be better equipped on evaluating the content. This finding implies that the content of the information does not really matter in accessing information as far as students were concerned. Thus, the researcher agrees with Limberg (2007) when he observed that high school students often address searching for facts without questioning or analyzing the information they acquire. A study conducted by Julien and Barker (2008) in Alberta, Canada on how high school students find and evaluate information sources revealed that evidence exist in the lack of investigative procedure of information among high school students. This finding is in contrast with ACRL Model EVALUATE which states that an information literate student must be able to evaluate information and its sources critically. Students from both schools cannot really evaluate information sources when it comes to online information sources.

According to the Association of College and Research Libraries (ACRL) (2010), the definition of information literacy includes understanding that an information need exists, as well as finding, evaluating and using information to meet that need and therefore if high school students were introduced to information literacy they would be able to fulfil ACRL (2010) definition of information.

5.4 Legal and Ethical Implications of Information Use

ACRL standard five indicates that an information literate student should be able to understand legal issues surrounding the use of information. The survey uncovered that student awareness of the legal and ethical implication of information use was very deficient. Therefore, students from both schools do not satisfy this aspect of the standards which is LEGAL/ETHICAL of the ACRL model. Part of the model states that an information literate student must be able to understand and employ the legal and ethical issues surrounding the use of information. The evidence showed that the higher aggregate of the students have not heard of the term 'plagiarism' and for those who claimed they have heard the term, could not give sufficient definition of the term. The lack of awareness of the term plagiarism implies that students plagiarised without knowing they have done so. Stuart (2002) defines plagiarism as knowingly cheating, it is a form of intellectual theft, and therefore the only reason one may give for acknowledging an author of a book is a demonstration of intellectual honesty.

In fact there were two sets of respondents who said they understood the term plagiarism and they were able to give precise definitions and those who claimed they understood but could not explain the term. For the first set of those who answered in the affirmative, the finding showed that they understood the term 'plagiarism'. To say that plagiarism means '*Copying another person's ideas, work, and words and pretend it's your own*', '*the use of somebody's work and presenting it as your own*', '*stealing the works of others and claiming that it is yours*' and '*taking part or whole work of a person without acknowledging the person*' is laudable for students at the senior high level. This confirmed Williamson & McGregor (2006) study which reveals that all students in Australian secondary school seemed to have understanding of 'plagiarism'.

For those that affirmed knowledge of ‘plagiarism’ but could not explain, the following were some of the answers given: *‘it is situation where other people use the book written by authors for themselves without the knowledge of the author’*, *‘it is the use of part of an intellectual work without the permission of the owner’*, *‘using a different name for your books aside your original name’*, *‘copying others peoples work’*, *‘using a person’s product without his or her knowledge’*. This confirms Williamson & McGregor (2006) observation that though students seem to be aware of the term, they were unable to recognize it or comprehend it full meaning. For this reason, teaching students how to cite information correctly is a fundamental skill (Seamans, 2002). Gullifer & Tyson (2010) also added that information literacy would teach students proper methods to cite and at the end, prevent students from violating all aspects of unethical misconduct, cheating and academic dishonesty.

Further, though evidence could not be ascertained from students of both schools on whether they acknowledge authors of books they use, more than half of the students from both schools mentioned they acknowledge authors of books in their assignments. Most of the reasons they gave for acknowledging authors were explicable. In fact, responses such as *‘so as not to infringe on copy right laws’*, *‘it is illegal to use someone’s work and not acknowledge’* it shows the admiration of respect one has for the authors work’, *‘it helps us to learn new words and also construct well grammatically sentences’*, *‘according to copyright laws the author of the book has all the right to sue you in court’*, *‘to make people sure about the source of your information’*, *‘it is because you will be sanction if you don’t acknowledge them* won my admiration for these students. This stands to strengthen the argument for the introduction of information literacy course in senior high schools. This shows that high school students were ready to learn if they were taught more about information literacy skills.

According to Atta-Obeng (2013) the concept of information ethics which is as a result of the abundant access to information via the internet, embraces issues such as intellectual freedom, privacy, intellectual property, and cyber plagiarism in academic institutions. Regrettably, not all students choose to act ethically as regarding the use of information and this causes immense concern among information professionals (Atta-Obeng, 2013).

This trend has become a distinctive feature of students in this digital era where they download assignments done by others somewhere on the internet as their own to support their academic works, usually defined as cyber-cheating in computer ethics (Szabo & Underwood, 2004).

Additionally, students of both schools indicated they have heard the word copyright and gave very pleasing definition or explanation of the term. Explanations such as *it is the right that authors have over a book which prevent others from copying*, *the right that an author has which prevent other people from copying it or making copies*, *a legal right of an author to protect his or her product from other people*, *it is the right which does not allow people to copy intellectual properties such as books music and movies*, *it is the law that protect an author's creation, a licensed work belonging to somebody which can't be copied, duplicated or altered without that persons knowledge* among others clearly demonstrate their understanding of the term copyright. This notwithstanding others was very close to the meaning of the term. Thus, this finding supports Asher & Duke (2010) who found that students at Illinois State University do not fully understand issues surrounding the ethical use of information, especially with respect to the meaning and implications of copyright protection, and the practical actions required to correctly observe copyright law.

Photocopying a whole book for purposes other than academic purpose is an infringement of the copyright law and as the study revealed, majority of the students from both schools did not photocopy a whole book and no reasons were given either. However, the few who gave reasons indicated that the books were unavailable in the library or the books were very expensive.

5.5 Barriers to effective use of information

Lack of internet facilities, overdue library fine, high cost of textbooks, lack of books and unhelpful library staff in both schools emerged among others as the most pressing problems encountered in accessing information. This is what Engelbert (1974) described as the manifestations of the objective reality which impede or prevent the flow of information from the generator of the information system to the addressee or user. Thus, for students of both schools, objective reality that impede the effective use of information were lack of internet facilities, high cost of textbooks, lack of books, slow Internet connectivity and unhelpful library staff in both schools. These information barriers are obstacles that hinder, delay or prevent access to information (S'wigon', 2006).

Lack of internet facilities does not constitute lack of access to computers, but it may well be described as such since computers without internet is pointless. This therefore could well fit into Byrne (2003) opinion that access to computers constitutes an essential part to enable use of the digital library. Whether it be from a common access Internet facility, home, school, university or workplace, ready access to a computer with reasonable Internet capabilities is essential. He further states that, without enough computers, it is impossible to get sufficient access time. Also, without adequate memory, speed and storage, it is impossible to open, download or use electronic scholarly information. These problems can be compounded by ageing hardware and lack of technical support.

Again, the study found unhelpful library staff which constitutes interpersonal barriers (S'wigon', 2006). According to S'wigon' (2006) interpersonal barriers which include; lack of help from people who are the source of primary and secondary information could hinder access to effective use of information.

5.6 Formal Training in Librarianship

The finding finally showed that the staff in these school libraries were not trained library professionals. Despite the fact that one of the employees had attended workshops at Kwame Nkrumah Science and Technology (KNUST) Main Library, they still lack the requisite skill to discharge their duties as information professionals in charge of senior high school libraries. Consequently, the lack of skills affected the impartation of information literacy to these students.

This reality related to unprofessional Library staff is indicated by Lockhart & Majal (2012) who assert that development and training of library staff is a critical aspect in ensuring very good user experiences. This move over the years has exposed the need to continue training of library staff. This must never be taken for granted. This situation impedes the flow of information from the generator or the information system to the addressee or the receiver. Since information is connected to libraries (S'wigon'(2006), people who work in libraries must possess the right skills in order to direct users. This is because teaching students how to cite information correctly is a fundamental skill (Seamans, 2002).

REFERENCES

- Asher, A. D., & Duke, L.M. (2010). *Information Literacy and First Year Students: Evaluating Knowledge, Needs, and Instruction*. Paper presented to the National Resource Center Annual Conference on the First-Year Experience. Feb. 16, 2010, Denver, CO.
- Association of Colleges and Research Libraries (ACRL). (2011). *Information Literacy Competency Standards for Higher Education*. Chicago, IL: ACRL. Available at <http://www.ala.org/ala/acrlstandards/standards.pdf>. (Accessed June, 11, 2015)
- Atta-Obeng, L. (2013). *Information literacy Competence of first year students at Kwame Nkrumah University of Science and Technology (KNUST)* (Unpublished MA Dissertation) Submitted to the Department of Information Studies. University of Ghana, Legon.
- Barranoik, L.(2001). Research Success with Senior High School Students school librarians *Worldwide* .7(1), 28-45.
- Bucher, K.T. (2000). The Importance of Information Literacy Skills in the Middle School Curriculum, *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 73(4), 217-220.
- Byrne, A. (2003). Digital Libraries: Barriers or Gateways to Scholarly Information?. *The Electronic Library* , 21(5), 414-421.
- Eisenberg, M. B., & Berkowitz, R. E. (1990). *Information Problem Solving: The Big Six Skills Approach to Library & Information Skills Instruction*. Ablex Publishing Corporation, 355 Chestnut St., Norwood, NJ 07648.
- Engelbert, H. (1974). Information Barrieren. *Informatik* , 21 (5), 51-4.

- Fidel, R., Davies, R. K. & Douglas, M.H. (1999). A visit to the Information Mall: Web Searching behaviour in High Schools Students, *Journal of the American Society for Information Science*. 50, 24-37.
- Heidi, J., & Barker, S (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Australian Academic and Research libraries*, 31(1), 12–17.
- Hepworth, M. (1999). *A Study of Undergraduate Information Literacy and Skills: the inclusion of* <http://cn.wikipedia.org/wiki/informationliteracyretrievedon25.4/06>
- Ilogho, J.E., & Nkiko, C. (2014). Information Literacy Search Skills of Students in Five Selected Private Universities in Ogun State, Nigeria: A Survey *Library Philosophy and Practice (e-journal)*, 1-7.
- Isfandyari-Moghaddam, A. & Kashi-Nahanji, V. (2011). "Does information technology affect the level of information literacy?: A comparative case study of high school students", *Aslib Proceedings*, 63(6), 618 – 631.
- Lockhart, J., & Majal, S. (2012). The effect of Library staff and Development on the user Experience: A case study at the Cape Peninsula University of Technology (CPUT). Proceedings of the IATUL Conference Paper 44. <http://docs.lib.purdue.edu/iatul/2012/papers/44>.
- Lorenzen, M. (2001). The Land of Confusion? High School students and their use of the www for research. *Research Strategies 11*. 151-163.
- Probert, E. (2009). Information literacy skills: Teacher understandings and Practice *Computers & Education*, 53, 24–33.
- Rockman, I. F. (2003). Library Instruction to EOP Students: A Case Study. Bethesda, Roth, Lorie. "Educating the Cut-and-Paste Generation. *Library Journal*, Nov. 1 (3), 23-30.

Seamans, N.H. (2002). Student perceptions of information literacy: Insights for librarians. *Reference Services Review*, 30, 122-123.

Stabo, A., & Underwood, J. (2004). Cybercheats: Is information and communication technology fuelling academic dishonesty? *Active Learning in Higher Education*, (2), 180-199.



CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter summarizes major findings of the study which presents a panoramic picture of the study. The conclusion is based on the important issues discovered in the study and based on them recommendations are then made. The study assessed the information literacy skills among students of Opoku Ware and Yaa Asantewaa Senior High Schools in Kumasi, Ashanti Region of Ghana.

Basically, the study was to find the level of information literacy skills among the students of the two schools and to determine whether the students have the requisite skills to access and use information, to gather evidence on how the students evaluate information and its sources critically; to ascertain the awareness of these students' knowledge on legal and ethical issues surrounding on information use and finally, to investigate the barriers encountered in accessing of information.

In all 170 respondents representing 10% of the form three students' population of both schools were selected to participate in the study. Two Head masters and two library staff from both schools were also included in the study.

6.2 Summary of the major findings

The purpose of the study was to assess the Information Literacy skills of students of Opoku Ware and Yaa Asantewaa Girls Senior High schools in Kumasi in the Ashanti Region of Ghana. The study to assess Senior High School students' information literacy

skills was based on Competency Standards of Association of Colleges and Research Libraries (ACRL). The major findings of the research were as follows;

6.2.1 Access and Use of information

Findings indicated that the majority of the respondents who responded to the questionnaires were between 15 to 17 years. Ages 15 to 17 contributed a total of 80% of the respondents. This is followed by respondents of 18 to 20 years, who constituted a total of 20%. This evidence was found in both schools.

The findings revealed that, 85.5% and 99.2% respectively of Yaa Asantewaa and Opoku Ware students access and use information from textbooks at the library. Also 98.6% and 99% respectively of the student's access information on the Internet and the most visited website was Google (81.2% and 70.3% respectively) in addition to the notes provided by their class teachers for academic related purposes.

In relation to why students visit the library, it was evident that the greater part of the respondents (86.9.4%) and 99% respectively) from both schools visited the library for the purposes of searching for information for course related work, reading of story books, reading course related textbooks, and read own notes. In spite of these encouraging purposes, a few of the students do not visit the library at all. However, almost all those who indicated they visited the library at least went there to do something relevant to their progress and attainment of knowledge.

6.2.2 Students evaluation of information sources

It was revealed that the majority of the students from Yaa Asantewaa and Opoku Ware evaluate print materials based on qualification and popularity of the author. They also value electronic information related to the popularity of the website as well as its area of

coverage. They also relied on the frequency of use of website by friends. However, very few of the students were able to state that they consider the authors or the publishers' name as well as the currency of the information to evaluate an information source. This means that majority of the students in both schools have low level of skills for evaluating information sources.

6.2.3 Legal and ethical use of information

On the issue of legal and ethical of use of information, it was found out that a large number of the students in both schools were unaware of legal and ethical issues associated with the use of information. Most of the students were aware of the concepts of copyright and plagiarism. However, because there are no strict rules and adherence to these regulations, these students do not see the need to put them into practice.

6.2.4 Barriers to information use

The study also discovered students in both schools encountered barriers and other obstacles in their bid to have access to information. The major barriers faced by the students when it comes to information access in both schools were, high cost of books (40.6% and 35% respectively), inadequate textbooks in the library (31.9% and 35.6% respectively) and slow internet connectivity 34.8% and 35.6% respectively). Other barriers to information access by students of both schools were sparse Information and Communication Technology (ICT) and non-availability of Internet services which could have facilitated easy access to information.

6.3 Conclusion

In conclusion, Information literacy is a necessary skill that is needed for people and especially students to survive in the environment of ever increasing volume of information globally. Information Literacy has not been part of the SHS curriculum in Ghana and therefore most of the students lack the ability to determine and also differentiate good information from bad ones. Therefore, they are not good users of information and as a result of this situation they are deprived of becoming lifelong learners.

Consequently, there is the need for some form of pragmatic effort by all major stakeholders in education in Ghana to integrate IL into the SHS curriculum for students to benefit from IL. It is therefore necessary for these students to be educated on the use of information right from the early stages of the educational ladder.

6.4 Recommendations

Based upon the findings of the study, the following recommendations have been proposed by the researcher for students of Opoku Ware Senior High School and Yaa Asantewaa Senior High School both in Kumasi and Senior High Schools in Ghana as a whole.

I. Incorporation of information Literacy Program into SHS Curriculum in Ghana

It is recommended that for students to be lifelong learners in the society, Information Literacy skills development should not be taught to post-secondary or tertiary students alone as seen or practiced in Ghana. Such skills should start at the beginning of a child's education. The reason for this recommendation being that not all students especially in the second cycle institutions will get the opportunity to attend tertiary institution and for this

reason, it is necessary to ensure that right from the primary schools up to the time they get to secondary schools, children are equipped with basic Information Literacy skills. Non integration of Information Literacy in academic programmes has contributed to information illiteracy among students and this is not far from what the researcher found in her study.

It is therefore recommended that the Ghana Education Service, Heads of Senior High Schools, and all stakeholders in the Senior High School educational set up must be made aware the importance of Information Literacy in all academic circles in Ghana. Heads of institutions must have the training in IL for better understanding so that they in turn will be able to advocate for its incorporation into the curriculum.

II. Provision of Functional ICT Laboratories with Internet Connectivity

Information Technology is one of the aspects of IL and therefore there should be ICT Centres in all Senior high schools with modern ICT tools connected to the Internet to help expose the students to the use of computers. Such centres would aid the students to get access to a wide range of information on the World Wide Web; this would go a long way to facilitate the teaching of Information Literacy skills if it is to be introduced in the senior high school curriculum. The knowledge of IL skills by students who are faced with or challenged with an avalanche of information would be able to sieve through the information at hand to get the best out of it thereby gradually become information literate persons for a life time.

III. Employment of a professional Library staff

Even though one of the schools seems to have someone who had attended a few courses pertaining to the library work, however this is not good enough. The authorities of the

schools need to employ professional information workers who will be in the position to educate the students on the use of the materials in the library, and what kind of information source to be used to find information for a particular information need. The staff should also be able to handle the information literacy program when introduced into the schools. This is because a trained library staff will provide better as well as meaningful orientation and user education on the use of library resources or better still how to find information using library and online information resources.

Additionally, there is an urgent need by the Ministry of Education in collaboration with the Ghana Education Service to make it a requirement for all senior high schools in Ghana to employ trained and qualified information workers who will be able handle the students through orientation and user education. The teaching of IL will expose the students to the legal and ethical issues of the use of information.

IV. Collaboration between librarians and teaching staff and Stakeholders

There should be a collaborative effort between librarians, the teachers and all stakeholders of the educational sector to establish contact, discuss, formulate plans and strategies to incorporate and implement IL. This situation would educate students how to access, evaluate and imbibe the concepts of ethics and legalities associated with the use of information such as plagiarism and copyright. Dorner (2009), affirms that IL education is a cooperative process. It is then an incumbent upon these two entities to establish contact, discuss and plan the goals of information literacy. Moreover, The Association of Colleges and Research Libraries (ACRL) emphasized that there is the need for this collaboration in their official publications (“Guidance for Instructions Programs in Academic Libraries” (ACRL 2003).

V. Library period on the school time table

Library periods must be part of the school time table to expose the students to the use of information and also to become independent information finders which is a basic skill for an information literate person. Further, library use should be compulsory for all students and be part and parcel of the life of all students.

VI. Extended opening Hours of the Library

It is suggested that, the libraries in the various schools should be opened after normal class hours for the students to have access to Information in the library and to have ample time to explore the various resources available in the library, perform their take home assignments, have a quiet environment for full concentration for learning, and finally, to inculcate in students the habit of reading. Library orientation and user education should also be intensified by the librarians to train the students on the efficient use of information, improve searching skills and exposure to the various information sources.

Above all, the researcher recommends an amendment to the ACRL Standard for information Literate students especially in Ghana, and Africa to suit the current levels of IL among Senior High Schools in Ghana. It is proposed that the “TRAINING” aspect must precede the Five (5) main areas which are now, access, evaluate, use and legally/ethically. The revised one should be in six main areas which are: Train, Know, Access, Evaluate, and Legally/Ethically.

VII. Proposed IL for SHS Students in Ghana

It was discovered in the course of the research that students from both schools lacked basic IL skills based on a lot of factors. Consequently, the researcher proposed that an additional stage which is “TRAIN” is to be added to the ACRL Model to make it six main areas to suit the level of Ghanaian students if it is to be introduced. The proposed Model which is to be known as POY’s Model for SHS students in Ghana is been presented in the table 5.1 below.

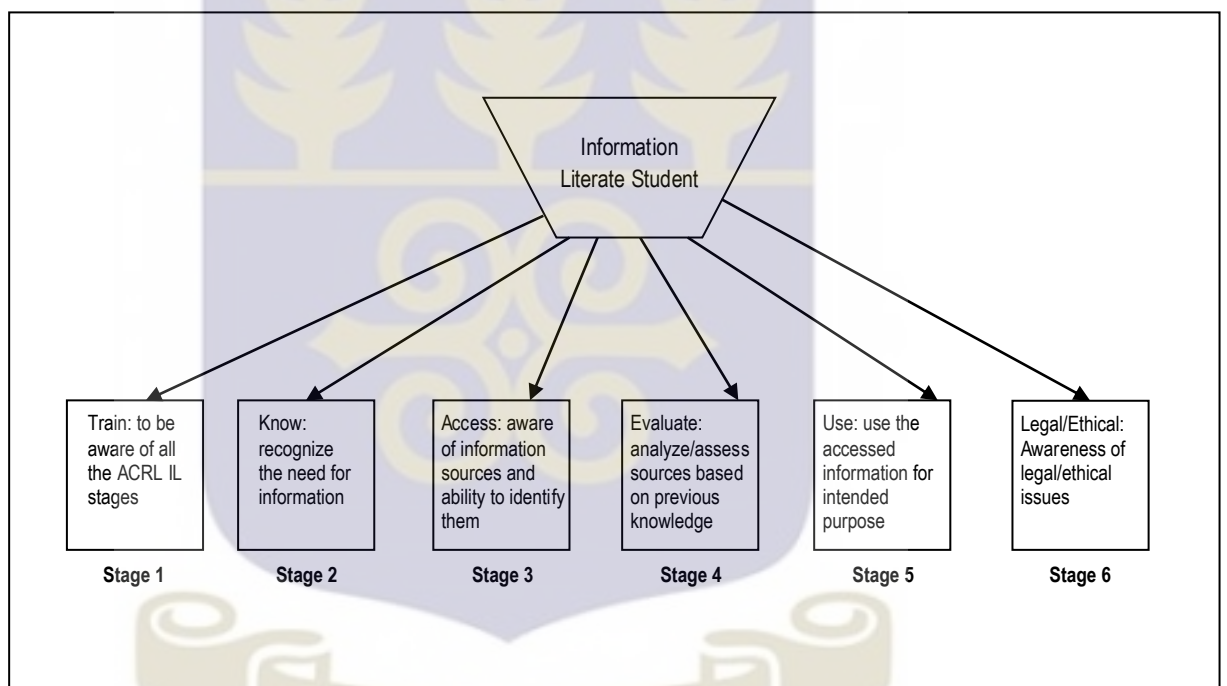


Figure 6.1: POY’s IL Model for SHS Students in Ghana

1. Stage one (1) Train

This is the first stage which deals with the training aspect which is deemed to be the core issue and focuses on the creation of awareness of IL by way of teaching and introducing students to have the basics and fundamentals in IL. The awareness creation will be beneficial to a novice in information literacy.

Stage two (2) Know

This stage deals with the ability of the students to recognize an information need at any point in their life in order to satisfy that particular information need at a given point in life. This stage is the part that allows the students to recognize the need for information.

2. Stage three (3) Access

The stage relates to ability of the student to be able to identify the various sources available: print and online and have knowledge on search skills and strategies to access the needed information efficiently.

3. Stage four (4) Evaluate

This stage notes that an information literate student should be able to verify and authenticate all information resources to seek it worth before relying on it as representing facts and factual pieces of information.

4. Stage five (5) Use

Having been able to verify the sources is not good enough but an information literate student should be able to use the acquired information successfully for intended purposes and be able to add to his or her base to fill voids.

5. Stage six (6) Legally/ Ethically

This is the ability of information literate students to deal with the legal and ethical use of information by an information literate student. Information Literate students should be able to understand all legal, ethical and social issues surrounding the use of information.

Future Recommendation

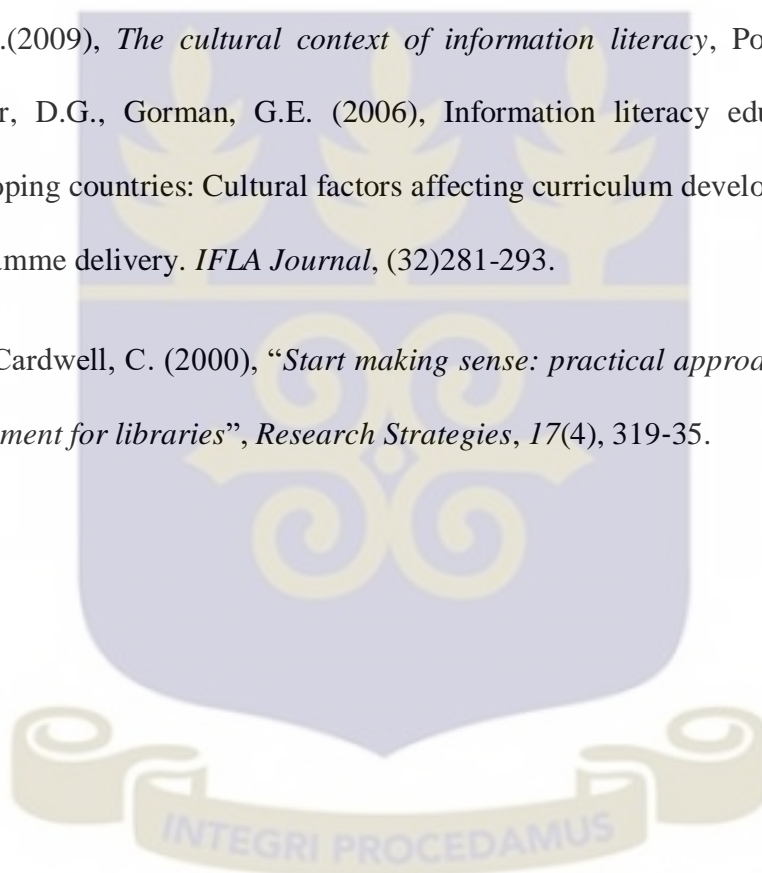
This study was limited to only two senior high schools in the Kumasi Metropolis of the Ashanti region of Ghana and was also quantitative in nature. It is therefore recommended

that future studies could be extended to cover many other senior high schools in other regions and qualitative tendencies introduced so that many more students can articulate and present their views.



REFERENCES

- Adeyemi, T.O. (2009). "The School Library and Students' Learning Outcomes in Secondary Schools in Ekiti State, Nigeria" *Asian Journal of Business Management* 2(1): 1-8 accessed from <http://maxwellsci.com/print/ajbm/v2-1-8.pdf>.
- Anafo, P. (2009). Promoting Information literacy among undergraduate students of Ashesi University College. (Unpublished M.A. dissertation submitted to the Department of Information Studies, Legon, University of Ghana.
- Dorner, D.G.(2009), *The cultural context of information literacy*, Power Point Slides
- Dorner, D.G., Gorman, G.E. (2006), Information literacy education in Asian developing countries: Cultural factors affecting curriculum development and programme delivery. *IFLA Journal*, (32)281-293.
- Rabin, J., & Cardwell, C. (2000), "Start making sense: practical approaches to outcomes assessment for libraries", *Research Strategies*, 17(4), 319-35.



BIBLIOGRAPHY

- Aalst, J. (2007). Exploring information literacy in secondary schools in Hong Kong: A case study. *Library & Information Science Research*, 29, (4), 533–552.
- ACRL (2000), Information Literacy Standards for Higher Education, available at: www.ala.org/ala/acrl/acrlstandards/standards.pdf (accessed March 7, 2015).
- Adam, L., & Wood, F. (2006), “An investigation of the impact of information and communications technologies in Sub-Saharan African”, *Journal of Information Science*, 25(4), 307-318.
- Adeyemi, T.O., (2009). “The School Library and Students’ Learning Outcomes in Secondary Schools in Ekiti State, Nigeria” *Asian Journal of Business Management* 2(1): 1-8 accessed from <http://maxwellsci.com/print/ajbm/v2-1-8.pdf>.
- Afful-Arthur, P. & Filson, C.K. (2015). Strengthening the Teaching Information Literacy skills: Case of University of Cape Coast, Ghana.
- Agyei, D. D., Kofi, C. Y., Fiankor, D. & Osman, H., "The Experience of Information Literacy in Evidence-Based Practice (EBP) Among Professional Nurses in the Ho Municipality of Ghana" (2015). *Library Philosophy and Practice (e-journal)*. Paper 1236. <http://digitalcommons.unl.edu/libphilprac/1236>.
- Ahenkorah-Marfo, M., & Teye, V. (2010). From User Education to Information Literacy: The Kwame Nkrumah University of Science and Technology library’s Experience. *Ghana Library Journal*, 21, (1&2).
- Aina, L. O. (2004). *Library and information science text for Africa*. Ibadan: Third World Information Services Limited. p. 12-13.
- Aiyepoku, W., Atinmo, M., & Aderinoye, R. (2002). *Towards a Functional Infoliteracy Campaign in African States: White Paper Prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Information and the National Forum on Information Literacy*.
- Alexandersson, M., & Limberg, L. (2003). Constructing Meaning Through Information Artefacts. *The New Review of Information Behaviour Research* , 4, 17-30.

- Amekuedee, J. O. (2002). *An Evaluation of library automation in some Ghanaian university libraries*. (Unpublished M.Phil. Thesis) Department of Information Studies, University of Ghana, Legon.
- American Library Association. (1989). *Presidential Committee on Information Literacy: Final Report*. Washington, DC: American Library Association.
- Anafo, P. (2009). Promoting Information literacy among undergraduate students of Ashesi University College. (Unpublished M.A. Dissertation) Submitted to the Department of Information Studies, Legon, University of Ghana.
- Anafo, P. & Filson, C., (2014) "Promoting Information Literacy among Undergraduate Students of Ashesi University College. *Library Philosophy and Practice (e-journal)*. Paper 1032. <http://digitalcommons.unl.edu/libphilprac/1032>.
- Andres, L (2012). *Designing and Doing Survey Research*, London: Sage Publications Ltd.
- Asante, E. (2000), *Research Writing: A Brief Guide*. Accra: Africa Christian Press.
- Asher, A. & Duke, L. (2010). Information Literacy and First Year Students: Evaluating Knowledge, Needs, and Instruction. Paper presented to the National Resource Center Annual Conference on the First-Year Experience, Feb.16, 2010, Denver, CO.
- Association of College and Research Libraries (2002), "*Information literacy competency Standards for higher education*", available at:
www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm (accessed March 17, 2015).

- Association of Colleges and Research Libraries (ACRL). (2011). Information Literacy Competency Standards for Higher Education. Chicago, IL: ACRL. Available at <http://www.ala.org/ala/acrlstandards/standards.pdf>. (Accessed June, 11, 2015).
- Association of College and Research Libraries. (2002). *Information Literacy Competency Standards for Higher Education*. Washington DC: ALA.
- Antonio, J., Gómez, H., & Ureña, C. P. (2003). Information Literacy Developments and Issues in Spain. *LibraryReview* , 52 (7), 340-348.
- Atreck, P., & Settle, R. B (1985). *The Survey Research handbook*. Illinois; IRWN p29
- Atta-Obeng, L. (2013). Information literacy Competence of first year students at Kwame Nkrumah University of Science and Technology (KNUST), (Unpublished M.A. Dissertation) Submitted to the Department of Information Studies. University of Ghana, Legon. Ghana.
- Babbie, L. C. (2009). Integrating information literacy skills into academic summer programs for precollege students. *Reference Services Review*, 37(2), 143 –154.
- Badu, E.E. (1991), "The information seeking habits of graduate students in the University of Ghana." *Education Libraries Review*, 34(2), 35-39.
- Bambaro, C. (2014). Overcoming the barriers to information literacy programs: CALM Lab for English Majors at Dickinson College", *Reference Services Review*, 42(2), 246-262.
- Barranoik, L. (2001). Research Success with Senior High School Students school librarians Worldwide .7(1), 28-45.
- Bawden, D. (2001). Information and Digital Literacies: A Review of Concepts. *Journal of Documentation* , 57 (2), 218-259.

- Bell, J. (2010). *Doing your research project: a guide for first-time researchers in education, health and social science*. (5th ed.) New York: McGraw-Hill.
- Bentil, W. (2011). *The Use of Electronic Resources in Ghanaian Universities: a comparative study of the University of Cape Coast and the Central University College*, (Unpublished M A Disertation). Department of Information Studies, University of Ghana, Legon. p74.
- Bernard, R., & Dulle, F. (2014). Assessment of Access and Use of School Library Information Resources by Secondary Schools Students in Morogoro Municipality, Tanzania. *Library Philosophy and Practice* (e-journal) paper 1107.
- Boekhorst, A.K. (2004), "Information literacy at school level: a comparative study between the Netherlands and South Africa", *South African Journal of Libraries and Information Science*, 70(2), 63-71.
- Bombaro, C. (2014). Overcoming the Barriers to Information Literacy Programs: CALM Lab for English Majors at Dickinson College. *Reference Services Review* , 42(2), 246 –262.
- Bopp, R. E., & Smith, L.C. (2011). *Reference and Information Services: An Introduction-* (3rd ed.) Eaglewood, Colorado: Libraries Unlimited, 226-227.
- Breivik, P.S. (1985), "Putting libraries back in the information society", *American Libraries and the Academy*, 16(10). Available at <http://digitalcommons.unl.edu/linphilprac/1107>.
- Brown, C.M. (1999), "Information seeking behaviour of scientists in the electronic information age: astronomers, chemists, mathematicians, and physicists", *Journal of the American Society for Information Science*, 50(10), 929-943.

- Brown, G. (2001). Locating Categories and sources of information: How skilled are New Zealand Children? School Library Media Research. Available at <http://www.ala.org>
- Bruce, C. (1997). *The Seven Faces of Information Literacy*. Blackwood: Aslib Press.
- Bruce, C., Edwards, S. & Lupton, M. (2006). Six frames for information literacy education: A conceptual framework for interpreting the relationships between theory and practice. 5(1). http://www.ics.heacademy.ac.uk/italics/vol5-1/pdf/sixframes_final%20_1_.pdf (accessed 11 June, 2015).
- Bucher, K.T. (2000). The Importance of Information Literacy Skills in the Middle School Curriculum, *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, 73(4), 217-220.
- Bundy, A. (2004). *Australian and New Zealand Information Literacy Framework: Principles, Standards, and Practice*, 2nd ed., Australian and New Zealand Institute for IL (ANZIIL), Adelaide.
- Bruce, C. (1997). *The Seven Faces of Information Literacy*. Blackwood: Auslib Press.
- Bruce, C. S. (2002). Information literacy as a catalyst for educational change: A background paper. White Paper prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Literacy, for use at the Information Literacy Meeting of Experts, Prague, The Czech Republic. <http://www.nclis.gov/libinter/infolitconf&meet/paper/bruce-fullpaper.pdf>
- Bruce, C., Edwards, S., & Lupton, M. (2006). Six Frames for Information Literacy Education: A Conceptual Framework for Interpreting the Relationships Between Theory and Practice. *Italics* , 5(1).

- Bundy, A. (Ed.) (2004), *Australian and New Zealand Information Literacy Framework: Principles, Standards, and Practice*, 2nd ed., Australian and New Zealand Institute for Information Literacy, Adelaide.
- Byrne, A. (2003). Digital Libraries: Barriers or Gateways to Scholarly Information? *The Electronic Library* , 21(5), 414-421.
- Byrne, A. (1999). Freedom of Access to Information and Freedom of Expression in a Pluralistic World. *IFLA Journal* , 25(4).
- Candy, P.C. (2002). “Lifelong learning and information literacy”, paper presented at the Information Literacy Meeting of Experts, Prague, available at: <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.119.5676> (accessed 10 April, 2015).
- Carter, M.P., & Williamson, D. (1996.). *Questionnaire Design*. Staffordshire University Business School, Leek Road, Stoke-on Trent ST4, U. K.
- Cassell, K. A., & Hiremath, U. (2009). *Reference and Information Services in the 21st century: an introduction*. New York: Neal-Schuman Publishers, Inc.
- Catts, R., & Lau, J. (2008). *Towards Information Literacy in the Workplace: Conceptual Framework Paper*. Paris: UNESCO Institute for Statistics, UNESCO.
- Carbo, T. (1997). Mediacy: Knowledge and Skills to Navigate the Information Superhighway. *Infoethics Conference*, (p. 10). Monte Carlo, Monaco.
- Clay, S. T. (2000). Mystery to Mastery: The CSU Information Competence Project. *Research Strategies* , 17(2/3), 157-166.
- Cohen L., & Manion, L. (1994). *Research methods in Education*, (4th ed.) 11 New Fetter Lane, London: Routledge.
- Creswell, W. J (2009) *The Research Design: qualitative, quantitative and mixed methods approaches* (3rd ed.) Los Angeles SAGE Publications. 34-36.

- Curzon, S. C. (2000). Developing a Program of Information Literacy: How California State University Did it. *College and Research Libraries News* , 61(6), 483-486.
- Curzon, S. C. (2004). Developing Faculty Librarian Partnerships in Information Literacy. In I. F. Rockman, & Associates (Eds.), *Integrating Information Literacy into the Higher Education Curriculum: Practical Models for Transformation* (p.29-45). San Francisco, CA 2945: Jossey-Bass.
- Dadzie, P.S.(2007). Information Literacy: assessing the readiness of Ghanaian Universities. *SAGE Publications*. 23(4), 266-277. <http://idv.sagepub.com/>
- Denscombe, M. (1998). *The Good Research Guide for Small- Scale Social Research Project*;Buckingham: Open University Press. 87-10.
- Derakhshan, M., & Singh, D. (2011). Integration of Information Literacy into the Curriculum: A Metasynthesis. *Library Review* , 60(3), 218-229.
- Dorner, D.G., Gorman, G.E. (2006). Information literacy education in Asian developing countries:Cultural factors affecting curriculum development and programme delivery. *IFLA Journal*, (32)281-293.
- Doyle, C. (1994). Information Research. “Information literacy in an information society: A concept for information age”, Syracuse, New York: *ERIC Clearinghouse on Information and Technology*, 97.
- Eisenberg, M., & Berkowitz, R. (1990). *Information Problem-solving: The Big Six Skills Approach to Library & Information Skills Instruction*. Norwood, NJ: Ablex.
- Eisenberg, M.B. (2008). Information Literacy: Essential Skills for the Information Age DESIDOC. *Journal of Library & Information Technology*. 28(2), 39-45.

- Encyclopedia Britannica. *New Encyclopaedia Britannica (Revised Annually)* (15th ed.)
London: Encyclopedia Britannica.
- Engelbert, H. (1974). Information Barrieren. *Informatik* , 21 (5), 51-4.
- FAIFE. (2002). Libraries and Intellectual Freedom. Retrieved April 03, 2015, from
<http://www.ifla.org/faife/faife/presen.htm>.
- Fidel, R., Davies, R.K., & Douglas, M.H. (1999). A visit to the Information Mall: Web
Searching behaviour in High Schools Students, *Journal of the American Society
for Information Science*. 50, 24-37.
- Foo, S. et al. (2014). Information literacy skills of secondary school students in Singapore,
Aslib Journal of Information Management. 66(1), 54-76.
- Fraenkel, R. J. (1993). *How to design and evaluate research in education*. (4th ed.) New
York: McGraw-Hill.
- Francke, H., Sundin, O., & Limberg, L. (2011) Debating credibility: the shaping of
information literacies in upper secondary school. *Journal of Documentation*,
67(4), 675 – 694.
- Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in
education*, (4th ed). Boston: McGraw- Hill. p. 43, 44, 104, 119-166.
- Galvan, J. (2006). *Writing Literature Reviews: A Guide for Students of the Behavioral
Sciences* (3rd ed.). Glendale, CA: Pyrczak Publishing.
- Gorman, G., Singh, D., & Tan, S. M. (2012). Information Literacy Competencies Among
School Librarians in Malaysia. *Libri* , 62, 98–107.

- Hamade, S. N. & Al-Yousef, S.(2010), " The use of information resources by LIS graduate students in Kuwait" *Library Review*, 59(5). 360-369.
- Hamilton, S., & Pors, N. O. (2003). Freedom of Access to Information and Freedom of Expression: The Internet as a Tool for Global Social Inclusion. *Library Management* , 24(8/9), 407-416.
- Hannabuss, S. (2002). Legal (and Ethical) Comment. *Library Hi Tech News* , 19 (10).
- Hassan, A. (2010). *Accessibility and utilisation of scholarly electronic journals by members of the academic of Kwame Nkrumah University of Science and Technology*. (Unpublished M. A. Dissertation), Submitted to the Department of Information Studies, University of Ghana, Legon.
- Heidi, J., & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Australian Academic and Research libraries*, 31(1),_12–17.
- Hepworth, M. (1999). *A Study of Undergraduate Information Literacy and Skills: the inclusion of* <http://cn.wikipedia.org/wiki/informationliteracyretrievedon25.4/06>
- Hernandez, J.A.G., & Urene, G.P. (2003)." Information Literacy developments and issues in Spain", *Library Review*, 52(7), 340-348.
- Hull, B. (2001). Can librarians help to overcome the social barriers to access? *New World* , pp. 102, 110, 382-388.
- Idiodi, E. A. (2005). Approaches to Information Literacy Acquisition in Nigeria. *Library Review* , 54(4), 223-230.

- IFLA/UNESCO. (2001). UNESCO Public Library Manifesto. Retrieved April 03, 2015, from <http://www.ifla.org/VII/s8/unesco/eng.htm>.
- Ilogho, J.E., & Nkiko, C. (2014). Information Literacy Search Skills of Students in Five Selected Private Universities in Ogun State, Nigeria: A Survey *Library Philosophy and Practice (e-journal)*, 1-7.
- Isfandyari-Moghaddam, A., & Kashi-Nahanji, V. (2011). "Does information technology affect the level of information literacy? A comparative case study of high school students", *Aslib Proceedings*, 63(6), 618 – 631.
- Jana, V., Stec, E., & Kwon, H. (2014). Factors Affecting Students' Information Literacy as they transition from High School to College. *American Association of School Librarians*. 17, <http://www.ala.org/aasl/slr/volume17/varlejs-stec-kwon>.
- Johnson, L., & Lamb, A. (2003). Evaluating Internet Resources. Retrieved 5 May 2016 from <http://eduscape.com/tap/topic32.html>.
- Joroso, B. N., & Isaac, G. G. (2008). Teaching Information Literacy Skills in Community Junior High School in Gaboro, Botswana. *Information Development*, 24(2), 123-134.
- Julien, H., & Barker, S. (2009). How high-school students find and evaluate scientific information: A basis for information literacy skills development. *Library & Information Science Research*. doi:10.1016/j.lisr.2008.10.00.
- Kai, S., & Wah, C. (2011). Using collaborative teaching and inquiry project-based learning to help primary school students develop information literacy and information skills. *Library & Information Science Research*. 33 (2), 132–143.

- Kumar, R. (2005). *A Research Methodology: a step by step guide for beginners*, (2nd ed.)
London: SAGE Publication. 332
- Kumekpor, T. K. B. (2002). *Research methods and techniques of social research* Accra:
Son Life Services, p. 24-25, 117-136, 155.
- Lampety, F. O. (2008). *Information Literacy Level Among Graduate Students of
University of Cape. University of Cape Coast, Ghana*: (Unpublished Maters
Thesis). University of Ghana, Legon.
- Lee, O. (2002). Dealing with Plagiarism in an Electronic Age. *Journal of Information Law
and Technology* , 2, 32-35.
- Littman, J., & Connaway, L. S. (2004). A Circulation Analysis of Print Books and E-
books in an Academic Research Library. *Library Resources and Technical
Services* , 48(4), 256-262.
- Lockhart, J. & Majal, S. (2012). The effect of Library staff and Development on the user
Experience: A case study at the cape Peninsula University of Technology (CPUT).
Proceedings of the IATUL Conference Paper 44.
<http://docs.lib.purdue.edu/iatul/2012/papers/44>.
- Lonsdale, R. & Armstrong, C. (2006). The role of the university library in supporting
information literacy in UK secondary schools. *Aslib Proceedings*. 58(6), 553 –
569.
- Lorenzen, M. (2001). The Land of Confusion? High School students and their use of the
www for research. *Research Strategies* 11. 151-163.
- Lorenzen, M. (2003). Teaching and Learning on the Web. *Academic Exchange Quarterly*,
7(1). 3.

- Lundh, A., & Limberg, L. (2008). Information Practices in Elementary School. *Libri* , 2, 92-101.
- Martin, C. M., Garcia, E. P., & McPhee, M. (2012). Information Literacy Outreach: Building a High School Program at California State University. *Northridge Education Libraries*, 35, 1-2.
- M. K. G., & Chege, A. (2013). Information Literacy Programmes in Selected Nairobi-Based Public and Private Universities in Kenya. *14th Annual IS Conference 2013: Information Ethics in Africa*. Nairo, Kenya: IS Conference.
- Marzena, W. (2011). Information Barriers in Libraries: Types, Typologies and Polish Empirical Studies. *Library Management* , 32(6/7), 475-484.
- Maybee, C. (2006). Undergraduate Perceptions of Information Use: The Basis for Creating User-centered Student Information Literacy Instruction. *The Journal of Academic Librarianship* , 32, 79-85.
- McAdoo, M. (2008). *A Case Study of Faculty Perceptions of Information Literacy and its Integration into the Curriculum*. Indiana, PA.: Indiana University of Pennsylvania.
- McGuinness, C. (2006). What Faculty Think - Exploring the Barriers to Information Literacy Development in Undergraduate Education. *The Journal of Academic Librarianship* , 32(6) , 573-582.
- Meadows-Oliver, M. (2006). Homeless Adolescent Mothers: A Metasynthesis of Their Life Experiences. *Journal of Pediatric Nursing* , 21(5), 340-349.

- MOE. (2010). Our ICT in Education Journey. Retrieved March 09, 2015, from <http://ictconnection.edumall.sg/cos/o.x?c=/ictconnection/pagetree&func=view&rid=729>.
- MOE. (2012). Secondary Education. Retrieved March 08, 2015, from [http://www.moe.gov.sg/education/secondary/Municipal Yearbook and Public Services Directory \(Annual\)](http://www.moe.gov.sg/education/secondary/Municipal Yearbook and Public Services Directory (Annual)). London: Municipal Journal Ltd.
- Mutula,S., Kgomotso,T. & Wamukoya, J (2006). Design and implementation of an online information literacy module: Experience of the Department of Library and Information Studies, University of Botswana, *Online Information Review*. 30(2), 168– 187.
- Neuman, W.L. (2006). *Social Research Methods: Qualitative and Quantitative Approach* (6th ed.): Pearson Education Inc.
- Newby, G. B. (1994). *Directory of Directories on the Internet: A Guide to Information Sources*. London: Mecklermedia.
- Nicholas, D., Clark, D., Rowlands, I., & Jamali, H. R. (2009). Online Use and Information Seeking Behavior: Institutional and Subject Comparisons of UK. *Journal of Information Science* , 35(6), 660-676.
- Opendhiem, C. (2008). "Legal issues for information professional IX: An overview of Recent Developments in the law, in relation to the internet" *Journal of Documentation*, 64(6), 938-955.
- Owusu-Ansah, E. K. (2007). Beyond Collaboration: Seeking Greater Scope and Centrality for Library Instruction. *Portal: Libraries and the Academy* , 7(4), 415-429.

- Owusu-Ansah, E. K. (2003). Information Literacy and the Academic Library: A Critical Look at a Concept and the Controversies Surrounding it. *The Journal of Academic Librarianship* , 29(4), 219-230.
- Owusu- Ansah, E.K. (2005). Debating definitions of information literacy: enough is enough. *Library Review*. 54(6), 366 – 374.
- Parker, J. (2003). Putting the Pieces Together: Information Literacy at The Open University. *Library Management* , 24(4/5), 223-228.
- Pawley, C. (2003). Information Literacy: A Contradictory Coupling. *Library Quarterly* , 73(4), 422-452.
- Pejova, Z. (2002). *Information literacy promotion and implementation: CEI countries perspectives*. Paper presented at Expert seminar IVIG 2005, Organised by Association of University libraries of the Czech Republic in cooperation with Institute for Information Studies and librarianship.
- Pennell, V. (1999). "Advocating information literacy" The information literacy School Community: Best Practice, *Centre for information Studies*, Wagga Wagga, 189-204.
- Probert, E. (2009). Information Literacy Skills: Teacher Understandings and Practice. *Computers & Education* , 53, 24–33.
- Quality Assurance Agency for Higher Education. (2001). *Health Studies, Subject Benchmark Statement: Academic Standards*. London: QAA.AC.
- Rabin, J., & Cardwell, C. (2000). “Start making sense: practical approaches to outcomes assessment for libraries”, *Research Strategies*, 17(4), 319-335.

- Razali, N., Ngah, N. A., & Masood, M. (2006). Designing and Developing Information Literacy Module Based on the Big 6 Skills for Resource Teacher. In F. M. Nadzar, L. Hashim, S. M. M, N. E. Nasir, N. Shaifud-din, N. A. Seman, et al. (Ed.), *International Conference on Information Literacy, 14-15 June*. Kuala Lumpur, Malaysia: MARA University of Technology.
- Rehman, S., & Alfaresi, S. (2009). "Information Literacy skills among Kuwaiti female senior high school students" *Library Review*, 58(8), 607-616.
- Rockman, I. F. (2002). "Evaluate that information." *Reference Service Review*, 33(4), 369-370.
- Rockman, I. F. (2003). Library Instruction to EOP Students: A Case Study. Bethesda, Roth, Lorie. "Educating the Cut-and-Paste Generation. *Library Journal*, 1(3), 23-30.
- Rothenberg, D. (1997), " How the Web Destroys the Quality of Students Research Paper." *Chronicle of Higher Education*, 44.
- Rowlands, I. (2007). Electronic Journals and User Behaviour: A Review of recent Research". *Library and Information Science Research* , 29(3), 369-396.
- Sajjad ur Rehman, & Alfaresi, S. (2009) "Information literacy skills among female students in Kuwaiti high schools", *Library Review*, 58(8), 607 – 616.
- Scholz-Crane, A. (1998). "Evaluating the future: A preliminary study of the process of how Undergraduate students evaluate web source" *Reference Service Review*. 26(3/4), 53-60. (Accessed 19th November, 2015).
- SCONUL. (1999). *Information Skills in Higher Education: A SCONUL Position Paper*. SCONUL.
- Seamans, N.H. (2002). Student perceptions of information literacy: Insights for librarians. *Reference Services Review*, 30, 122-123.

- Shakeri, S. (2010). *Approaches to Information Literacy Instruction in National Library and Archives of Iran*. Retrieved March 10, 2015, from www.bcr.puglia.it: http://www.bcr.puglia.it/tdm/documenti/workshop/2010/Rel/prima/Shakeri_Originale.pdf
- Shanmugan, A.(1999)." Information seeking behaviour of trainee teachers in selected teacher training colleges in Malaysia" *Malaysian Journal of Library and Information Science*. 4(1), 1-26.
- Snavelly, L. (2001). Information Literacy Standards for Higher Education: An International Perspective, *67th IFLA Council and General Conference*, 16-21 August 2001: 1-4.
- Stabo, A., & Underwood, J.(2004). Cybercheats: Is information and communication Technology fuelling academic dishonesty. *Active Learning in Higher Education*, 5(2), 180-199.
- Stember, S. (2001). An overview of content analysis. Practical Assessment, *Research and Evaluation*, 7(17). Available@ <http://PAPEonline.net/getvn.asp?v=7&n=17>.
- Sundin, O. (2008). Negotiations on Information Seeking Expertise: A Study of Web-based Tutorials for Information Literacy. *Journal of Documentation* , 64(1), 22-44.
- Thompson, I. (1989). *The Documentation of the European Communities*. London: Mansell.
- Todd, R. (2003a). Learning in the Information Age School: Opportunities, Outcomes and Options. *IASL Conference*. IASL.
- Todd, R. (2003b). *Student Learning Through Ohio School Libraries: The Ohio Research Study*. Ohio: OELMA.

- Todd, R., Kuhlthau, C., & Tepe, A. (2004). 3,000 Students of Ohio tell their Story: Yeah, the School Library Rocks. *International Association of School Librarianship: From Aesop to e-book: the Story goes on*. Dublin, Ireland: IASL.
- Todd, R. (2000). A Theory of Information Literacy: In-formation and Outward Looking. In C. Bruce, & P. Candy (Eds.), *Information Literacy Around the World: Advances in Programs and Research* (p. 163–175). Wagga Wagga, New South Wales: Charles Sturt University.
- Tuominen, K., Savolainen, R., & Talja, S. (2005). Information Literacy as a Socio-technical Practice. *Library Quarterly* , 75(3), 329-345.
- UNESCO. (2006). *Information Literacy: Key for Lifelong Learning*. New York, NY, USA: UNESCO.
- Walraven, A., Brand-Gruwel, S., & Boshuizen, H. (2008). Information-problem Solving: A Review of Problems Students Encounter and Instructional Solutions. *Computers in Human Behaviour* , 24(3), 623–648.
- Webber, S., & Johnston, B. (2003). Information Literacy: Standards and Statements. *Electronic Library* , 21(5), 414-421.
- Webber, S., & Johnston, B. (2000), Conceptions of Information literacy: new perspectives and Implications. *Journal of Information Science* , 26. (6), 381–397. <http://www.ala.org/aclr/issues/infolit/overview/intro> Retrieved September 23, 2015.
- Williamson, K., & McGregor, J. (2006). Information use and secondary school students: a model for understanding plagiarism. *Information Research*. 12(1).
- Whitaker. *Whitaker's Almanac (annual)*. London: Whitaker.
- Wu, M.D., & Chen, S. (2012). How Graduate Students Perceive, Use, and Manage Electronic Resources. *Aslib Proceedings* , 64(6), 641-652.

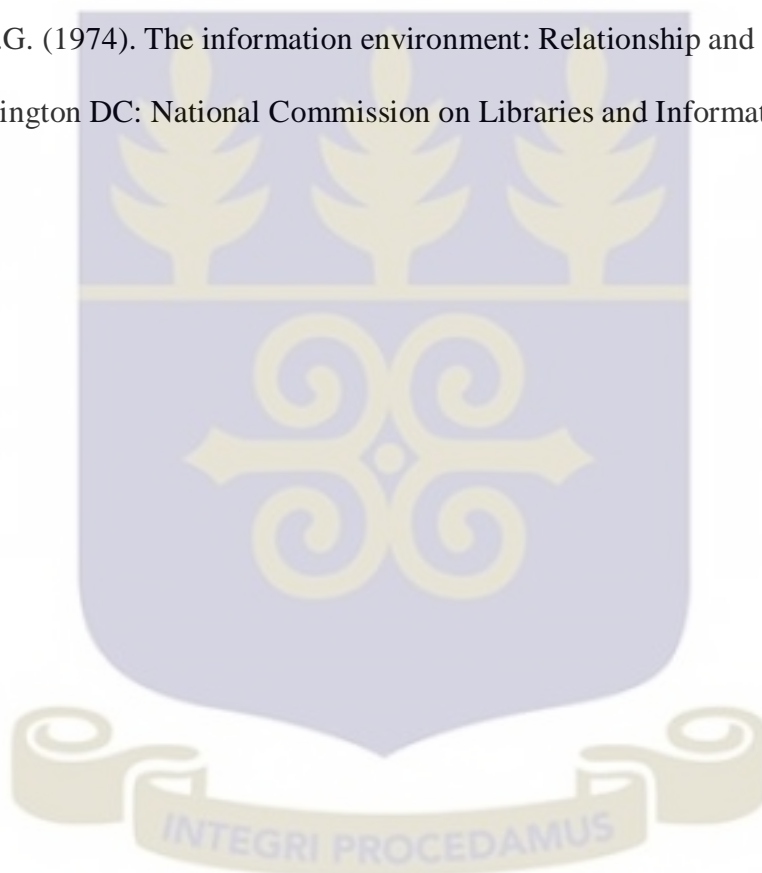
Wu, M. D., Huang, W. C., & Chen, S. C. (2006). Humanities Scholars and Databases for Ancient Chinese Books. *Journal of Library and Information Studies* , 4(1/2), 1-16.

Yang, H.W. (1998). "Information-seeking behaviour of the Scientists" *Bulletin of Library and Information Science*, 25, 24-43.

Zabel, D. (2004). A Reaction to Information Literacy and Higher Education. *The Journal of Academic Librarianship* , 30(1), 17-21.

Zurkowski, P.G. (1974). *The information environment: Relationship and priorities.*

Washington DC: National Commission on Libraries and Information Science, 6.



APPENDICES

APPENDIX 1: QUESTIONNAIRE

TOPIC: ASSESSMENT OF INFORMATION LITERACY SKILLS AMONG STUDENTS OF OPOKU WARE AND YAA ASANTEWAA GIRLS' SENIOR HIGH SCHOOLS IN KUMASI

Dear Students,

My name is Patience Yeboah, a student from the University of Ghana. I am conducting a study entitled: **Assessment of Information Literacy Skills among Students of Opoku Ware and Yaa Asantewaa Girls' Senior High Schools in Kumasi** as part of the requirement for the award of a Master of Philosophy (MPhil) degree in Information Studies. I would be grateful if you could spare a little time to answer the following questions sincerely to help me have a fair idea about the above research topic. The information being sought is purely for academic purpose and under no circumstances would it be disclosed to any person. (Information literacy is knowing when and why one needs information, where to find it, and how to evaluate, use and communicate it in an ethical and legal manner).

Thank you.

Yours sincerely.

Patience Yeboah

SECTION A: BIOGRAPHICAL DATA

Please tick [✓] as appropriate and supply answers where required

1. Gender a. Male [] b. Female []

2. Age Group a. 12-14 [] b. 15-17 [] c. 17-20 []

3. What program are you offering?
 - a. General Science [] b. Agric Science [] c. General Arts [] d. Home Economics []
 - e. Visual Arts [] Others specify []

SECTION B: STUDENTS ACCESS AND USE OF INFORMATION (please tick as applicable)

4. How often do you visit the library? a. Everyday [] b. Weekly [] c. Monthly [] d. Not at all []

5. What is your purpose for visiting the library? (tick all that apply)
 - a. Read my Notes [] b. Read story books [] c. Read a textbook [] d. Do research for my coursework []

6. Do you have library periods on your time table? a. Yes [] b. No []

7. Do you receive library instruction or orientation form the library staff ? a. Yes [] b. No []

8. If yes, what kind of library training do you receive?

.....

9. If no, how then do you get the skills to search for information?

.....

10. Which of these Information sources are available in your library? a. Dictionary

[] b. Encyclopaedia [] c. Directory [] d. Almanac []

11. Which of the above sources in (11) would you use in finding information on:

a. general background information -----

b. names and address of people, places etc -----

c. meaning of a word -----

d. miscellaneous information -----

12. Do you have Computer Laboratory in your school? a. Yes [] b. No []

12. If yes, are the computers connected to the Internet? a. Yes [] b. No []

13. Do you access information from the Internet? a. Yes [] b. No [] c.

Sometimes []

14. What do you use the Internet for? (tick all that apply)

a. Play Games [] b. Search for Information [] c. E-mail [] d. Facebook

[] e. Twitter []

15. On the Internet which website do you visit? (tick all that apply)

- a. Yahoo [] b. Google [] c. Wikipedia [] d. AltaVista [] e. Others (specify)

.....

SECTION C: EVALUATION OF INFORMATION SOURCES

16. How do you get additional Information for your studies? (tick all that apply)

- a. From Textbook [] b. The Internet [] c. News Papers [] d. Journals []

17. Do you check for the sources or the author of the Information? a. Yes [] b. No []

18. How will you determine a good source of Information? (Tick as many as applicable)

- a. Check the authors name [] b. Verify the publisher [] c. Country of origin []
d. Qualification of the author [] e. Popularity of the author [] f. Date of Publication []

19. With reference to question (15) above how will you able to know that the information from the Website is from a right source? (Tick as many as applicable)

- a. The popularity of the website [] b. The website is always used and accessed by friends [] c. The author of the information [] d. The currency of the information []
e. Wider Coverage [] f. People have been mentioning the name of the website []

SECTION D: LEGAL AND ETHICAL USE OF INFORMATION

20. Have you heard about plagiarism? a. Yes [] b. No []

21. If yes, what is the meaning?

.....

.....

22. Do you acknowledge the author of a book if you use part of his or her works for you work or research?

- a. Yes [] b. No []

23. Please explain your choice of answer in (22) above.

.....
.....

24. Have you heard about copyright? a. Yes [] b. No []

25. If yes how do you understand it?

.....
.....

26. Have you photocopied a whole book before? a. Yes [] b. No []

27. If yes what was the reason?

- a. The book was not available in the bookshops to buy [] b. Very expensive []
c. Not available in the library [] d. The book is out of print []

SECTION E: BARRIERS TO EFFECTIVE USE OF INFORMATION (Tick as many as applicable)

28. What kind of problems do you encounter in accessing information?

- a. We do not have enough books in the library [] c. Library staff is not helpful []
d. I lost my library card and cannot borrow a book from the library [] e. I owe library overdue fine []
f. High cost of textbooks [] g. No Internet facilities in the school []
h. Slow Internet connectivity [] i. Others (please, specify).....

Thank you very much for your time and cooperation.

APPENDIX 2: INTERVIEW SCHEDULES FOR HEAD MASTERS

Assessment of Information Literacy Skills among Students of Opoku Ware and Yaa Asantewaa Girls' Senior High Schools in Kumasi

Dear Sir/Madam,

My name is Patience Yeboah, a student from the University of Ghana. I am conducting a study entitled: **Assessment of Information Literacy Skills among Students of Opoku Ware and Yaa Asantewaa Girls' Senior High Schools in Kumasi** as part of the requirement for the award of a Master of Philosophy (MPhil) Degree in Information Studies. I would be grateful if you could spare a little time to answer the following questions sincerely to help me have a fair idea about the above research topic. The information being sought is purely for academic purposes and under no circumstances would it be disclosed to any person. (Information literacy is knowing when and why one needs information, where to find it, and how to evaluate, use and communicate it in an ethical and legal manner. Information literacy also refers to a set of characteristics that transform an ordinary student into a “wise information consumer” and” lifelong learner”). Thank you.

Interviewee :

Date :

1. Do you have enough resources in your library which satisfy the information needs of the students? Example: Dictionaries, Encyclopaedias, Directories, Almanacs, textbooks and others.

.....
.....

2. Is the library man by information professional who is able to give orientation to the students as to how to use and locate materials in the library?

.....
.....

3. If not, are there plans to hire a trained person? What kind of training would you like to be given to this untrained library worker?

.....

4. Do you have a computer laboratory? If yes, how do your students use it?

.....

-
5. Are the computers connected to the Internet?
.....
 6. How often do the students use the computer laboratory and what do they use the place for?
 7. How would you assess the level of their skills for accessing information?
.....
 8. Where do they get extra information apart from their notes to support their studies?
.....
 9. What are some of the challenges they face in their effort to access these sources of Information?
.....
 10. Do you suggest Information Literacy program be incorporated into the curriculum of SHS Syllabus?
.....
 11. In your view, are your students Information Literate?
.....
 12. Please your recommendations?
.....

Thank you for your time and cooperation.



APPENDIX 3: INTERVIEW SCHEDULES FOR LIBRARY STAFF

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Dear Sir/Madam,

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Interviewee :

Date :

1. Please, may I know your educational qualification and background?
.....
2. What kinds of information resources are available in the library?
.....
3. Have you had any formal training in Librarianship? If yes, what kind of training?
.....
4. Do you attend any workshop, seminar or training on information management? If yes, what kind of training? And if no. how do you then learn new skills for your work?
.....
.....
5. Do you give library orientation or instructions to students?
.....
6. If yes, how often and what form does it take?.....
.....

7. If no, what are the reasons?

.....
.....

8. Is your library automated?

.....

9. May I know whether you have Internet connectivity in your library?

.....
.....

10. If yes, how do the students use it and what do they use it for?

.....
.....

11. If no, are there any plans for Internet connectivity soon?

.....
.....

12. If the students use the Internet to search for information, do they consider and understand the issue of plagiarism?

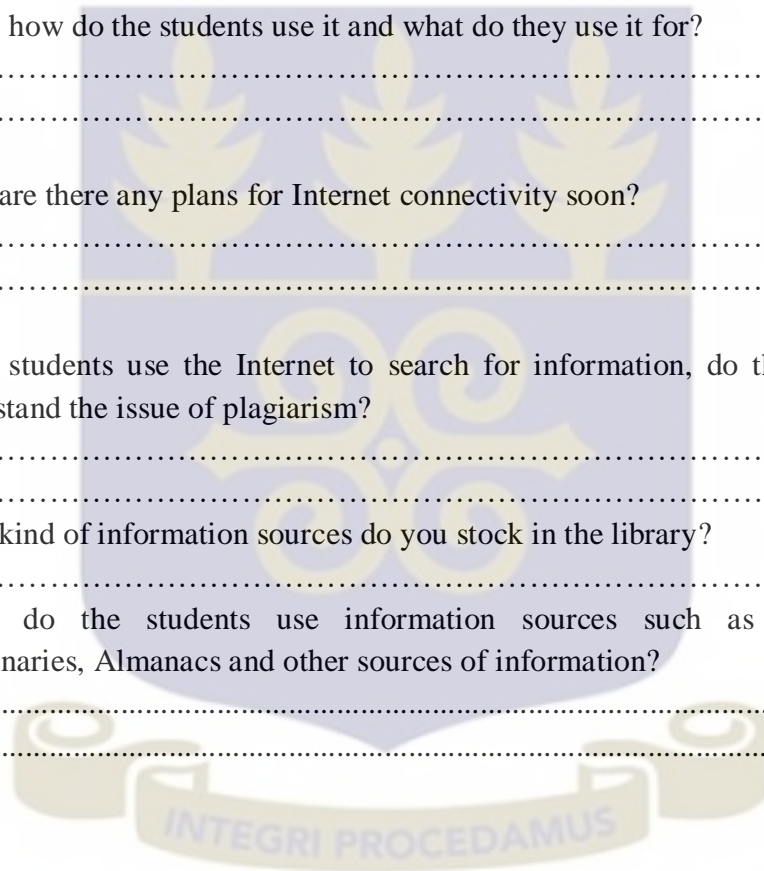
.....
.....

13. What kind of information sources do you stock in the library?

.....

14. When do the students use information sources such as Encyclopaedias, Dictionaries, Almanacs and other sources of information?

.....
.....



Thank you very much for your time.