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Developing teachers' information literacy capabilities in secondary schools in Ghana: a comparative study of two best schools in the central region

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Abstract

This study examines the information literacy capabilities of teachers in two of the oldest secondary schools in the Central Region of Ghana. The study assesses the availability, accessibility and use of the schools' library and internet facilities as well as in-service training programmes in relation to the acquisition of information literacy skills. The survey method was adopted and questionnaire was administered to all 211 teaching staff in the two schools. Questionnaire design was based on the literature review and research objectives. The findings confirmed the availability of fairly well-equipped libraries with internet facilities; the ability of most teachers to use these facilities to satisfy their information needs such as supplementing their teaching notes and keeping abreast with current information in their subject areas. The results also show that teachers prefer electronic sources to print sources and that there was also no in-service training in information literacy skills for teachers.

The study recommends that the Ghana Education Service introduces in-service training on IL skills for teachers and that the Heads of schools should make available relevant library materials and stable internet facilities for their schools since these are important in developing teachers IL skills. Additionally, policies for incorporating IL into the curriculum were also recommended. IL among teachers in secondary schools is among the least explored topics in the field of library and information studies in Ghana.

Keywords

Teachers, Information literacy skills, Secondary schools, Information Literacy Curricular, Ghana

1. Introduction

The concept of information literacy was first introduced in the United States of America in 1974 by the then President of the United States of America Information Industry Association, Paul Zurkowski (Doyle 1994). Within the context of a report that Zurkowski wrote to the National Commission on Libraries and Information Science, he stressed the need for the attainment of universal information literacy by 1984 by bringing on board the needs of people in newly established technological milieu (Kapitzke, 2003).

Zurkowski (1974) gave details of the concept in addressing a goal within an information policy, to transit the traditional library services into a modern sector information delivery to articulate the suite of new information industries that were evolving at that time. To him, information literate individuals have adequate training in the application of information tools to their work. In the main, he was talking about workplace information literacy; the ability of people to understand and utilize information in the workplace to increase productivity. Workplace information literacy involves the ability of an individual to utilize information appropriately in the workplace (CILIP, 2014). UNESCO reported that there are gaps in the use of information literacy in the work place and therefore recommended vigorous research in this area (Catts, 2010).

A lot of research on information literacy has centered so much on the academic environment (Rader, 2002). Currently, there is massive interest and transition from information literacy in education to the workplace due to the challenge of information overload. In the workplace environment, workers need to use information resources available effectively to increase work output. Using the school setting as a workplace environment for teachers for example, they need to understand and use available information resources in their schools to support their teaching activities. There is the need to use different information resources in the workplace, eg from textual, physical and social sources (Lloyd, 2006).

Teacher's use of the schools information resources to support teaching activities is dependent on their level of information literacy skills. Their knowledge in using information and its sources available in the school comprehensively will go a long way to affect their student's academic work. To a larger extent, much of it is greatly dependent on the facilities available in the school. For example a school library, relevant library materials, a qualified librarian, computers, ICT laboratory and internet connectivity. In the absence of all these facilities, an information literate teacher will be limited in accessing the resources that these facilities bring.

This study assessed the views of teachers in information literacy and their capacities to use their school's information resources to support teaching. The study comprised two of the oldest but best secondary schools in the Central Region of Ghana. These two schools fall within the category 'A' schools in Ghana.

The Central Region of Ghana can boast of about ten (10) best performing secondary schools in the country with more than one thousand (1000) teachers in these schools teaching various subjects. For teachers in these schools to teach well, they must be in the position to find the right information from available resources to support the curricular. In supporting the curricular they must understand their teaching objectives and the need to train students for tertiary education and beyond.

1.1 Problem statement

In a developing country like Ghana, literature indicates that most Ghanaian second cycle institutions lack facilities such as a school library, relevant library materials, computers, ICT laboratory and internet connection. Insufficient qualified library personnel's is also a challenge (Korobili, 2011).

Teachers mostly enter the teaching field devoid of the necessary information literacy competence and knowledge (Laverty & Reed, 2006). In Ghana, Colleges of education do not offer information literacy skills as a course for students (Tachie-Donkor, 2015). Taking

this further, a preliminary investigation with some teachers revealed that some teachers lack the knowledge of information sources and types of information, some have poor search skills, and some are not conversant in using the library and the internet. It is doubtful whether teachers are able to find and use information from the school's library and internet effectively to support their teaching activities. Furthermore, the preliminary investigation also revealed that some teachers prefer using curricular based information as compared to searching for new relevant additional information from other sources to include in their teaching. There is a disconnection between teacher's information literacy skills and performance expectation (ALA, 1989).

In Ghana, information literacy skills deficiencies will affect teacher's productivity, in that; they will be deficient in looking for curricular based information to support the existing curriculum. Also, they will not be in a better position to inculcate these set of skills into students.

1.2 Purpose and Objectives of the study

The purpose of the study was to assess teachers' information literacy capabilities in secondary schools in Ghana.

Thus, the specific objectives of the study are to:

- assess the availability and accessibility of the schools' library and internet facilities;
- investigate teachers' use of the schools' information resources (library and internet) to support the curricular
- assess support for usage of schools information resources
- investigate training programmes in relation to information literacy
- to suite the Ghanaian context, design an Information Literacy Curricular to develop teachers/students IL skills
- make recommendations based on the findings of the study

A number of studies have been conducted in developed countries to primarily investigate information literacy skills of teachers in higher and secondary education. However, in Africa and particularly in Ghana, studies by Dadzie (2007), Dadzie (2009) and Aggrey (2011) have focused on information literacy in higher education. Currently not much has been published on information literacy in secondary schools. This study intends to create awareness about the importance of IL in secondary schools because it will facilitate transition of students into colleges and universities.

1.3 Significance of the study

Due to the importance of IL, developing the capacity of teachers in Ghanaian schools in that regard will be of great benefit to both the teachers and the students they teach. One way to do this is to formulate policies that will incorporate IL into the curriculum of Colleges of Education and Secondary Schools. This study will therefore create awareness for policy makers in Africa and Ghana to make provision for the inclusion of IL programs for school teachers. Furthermore, the Information Literacy Curricular designed by the authors of this study is expected to offer Ghana Education Service the necessary guidelines for planning, implementing, managing and evaluating IL programs for teachers as well as students.

The rest of the paper presents a review of the literature and the methodology for the study followed by the findings and discussion, curricular in IL for teachers/students, conclusion and recommendations.

2. Literature review

The over abundance of information has necessitated the training in the handling and use of information for the right purpose. Second cycle institutions need to provide the necessary facilities to facilitate teachers information literacy skills for teaching. Teachers on the other hand, need to acquire the right skills in retrieving and sorting information for their teaching work. Globally, educating students to be lifelong learners rest in the power of schools teachers. Nevertheless, Laverty and Reed (2006) reported that teachers usually enter the teaching field without the necessary information literacy skills, knowledge and competence that is expected of them. ALA's Presidential Committee on Information Literacy (ALA, 1989) also identified and reported that the "information age is divorced from most teaching styles".

To rectify this situation and bridge this gap, ALA called for a restructuring of students learning process in order to create a new information-age school distinguished by interactive, self-initiated learning whereby the teacher will be thought of as a guide to the learning process. Recommendation five (5) from the ALA's 1989 report stated that "Teacher education and performance expectations should be modified to include information literacy concerns." This will pave way for teachers to utilize educational resources available in schools appropriately to prepare their students for higher education. Teachers' information literacy skills are crucial since these set of skills enable them to distinguish relevant information from that which is not.

Among other educational resources available in schools for teaching are the school library and internet resources. Teachers' effective use of these resources for notes preparation and classroom work is dependent on their level of information literacy skills. The availability and accessibility of these resources is limited (Tachie-Donkor, 2015). For this reason, Flockton et al. (2006) stated that the concept and importance of information literacy is not extensively understood, supported or practiced by the teaching profession.

In examining the level of teachers IL confidence, Laverty and Reed (2006) confirmed that teachers themselves were not essentially confident users of information therefore they preferred to restrict their information resources to relatively few sources. To support this assertion, Williams and Coles's (2007) study indicated that among other factors, teachers were not confidence enough in accessing and using available information sources. Herring's (2006) study in a U K high school revealed that teachers had high interest in using electronic sources over printed sources. On the contrary, a similar study by Korobili et al. (2011) indicated that most teachers preferred using print resources as against the usage to electronic resources. The study explained this preference to be attributable to the inadequate computers in the school as the schools' library only provided access to print materials. The study also indicated that, teachers preferred using their own collection of books rather than the school's library materials as the latter did not have adequate materials that could help in curriculum delivery. Additionally, the teachers did not have the requisite skills needed to browse the library's collections. Merchant and Hepworth (2002) established that teachers used different information sources for their teaching purposes. Looking at how these teachers were introduced to the use of the internet, most (47.8%)

teachers said they have learnt it themselves, while (27.2%) also said they were taught by their friends and colleagues (Hepworth, 2002).

Williams & Wavell (2006) investigated teacher's conception of information literacy, highlighting the abilities to gather information and facts and the use of the school library. The outcome of the study revealed that teachers had understanding in finding information from the Internet, books or resources from the library.

In developing IL skills, Asselin and Doiren, (2003) noted that school library programs were not included in the training of pre-service teachers. As a result of this, most teachers were inadequate in the effective use of the school's library. Another study by McLelland and Crawford (2004) established that the school library was seriously under-utilized as a result of limited staffing. From Nigeria, Johnson (2000) found out that secondary school teachers did not find the library materials relevant. According to Korobili (2011) public secondary schools in Greece have a small number of libraries with fewer librarians. According to her, school librarians were obliged to promote information literacy skills in schools. In the absence of a school library with a librarian, teachers will not be able to use the library and its resources to promote effective teaching and learning.

Developing information literacy skills in schools must be a collaborative effort of school authorities and school librarians (Todd et al. 2003 and Oberg et al. 2000).

3. Method of data collection

The study employed the descriptive survey method. The survey method is aimed at determining the nature of a situation as it exists at the time of the study. The outcome of the result obtained from the sample can be generalized as the representation of the population according to Leedy (2005). This method is appropriate for this study because of its ability to allow generalization and also draw meaningful conclusions from the data collected.

In the Cape Coast metropolis of the Central Region of Ghana, there are nine government Senior High Schools. However for the purpose of this study the researchers focused on only two of the second cycle institutions. For confidentiality and anonymity, labels were used for the two schools eg. School "A" and School "B". Items on the questionnaire included the respondent's biographical information, use of and access to information from the schools' libraries, training in the use of libraries and use of electronic resources.

Teaching staff in School A was 94 while School B was 117. All 211 teaching staff of the two schools was purposively used for the study. The questionnaire was the main instrument used for data collection. The questionnaire was made up of closed ended and open ended questions. Items on the questionnaire included the respondent's biographical information, use of and access to information from the schools' libraries, training in the use of libraries and use of electronic resources

For a high response rate in terms of both completion and return rate, the researchers administered the questionnaires themselves to all 211 teachers. Data gathered was analyzed using the Statistical Package for Social Science (SPSS). The results were presented in tables showing the frequencies and percentages of responses given by the respondent.

In all, 175 (83.75%) participants responded to the questionnaire; 102 (58.3%) teachers from school A and 73 (41.7%) teachers from school B. Babbie & Mouton (2002) have noted that 50% is regarded as an acceptable response rate in social research surveys while a response rate of 65% is desirable.

4. Findings

4.1 Background characteristics of respondents

The background information of respondents was sought. Out of the 175 respondents, majority were males 138 (78.9%) of which 87 (85.3%) were from School A and 51 (69.9%) from School B. Females in both schools were 37 (21.1%) of which 15 (14.7%) were from School A and 22 (30.1%) were from School B.

Less than half of the respondents 44% were within the age category of 30 and 40 years. In all, about 78.4% and 72.6% of the respondents from School A and School B respectively were less than 40years and could be considered as within the young to middle age bracket.

4.1.1 Level of education

The level of education of respondents was also sought. Table 1 gives a distribution of the respondents' level of education across the two schools.

Table 1: Level of education

Response	School A		School B		Total	
	Freq	%	Freq	%	Freq	%
University Graduate	101	99.0	69	94.6	170	97.2
Diploma holder	1	1.0	2	2.7	3	1.7
Post-secondary	0	.0	2	2.7	2	1.1
Total	102	100.0	73	100.0	175	100.0

Source: Field data, 2015

As shown in Table 1, majority 170 (97.2%) of the respondents had University education with a few having Diploma 3 (1.7%) and post-secondary 2 (1.1%) education. Out of the 170 (97.2%) University graduates', 101 (99.0%) were from School A while 69 (94.6%) were from School B. In Ghana, University degree is the requirement for teaching in second cycle institutions. It is, therefore, not surprising that the majority 101 (99.0%) and 69 (94.6%) from School A and School B respectively were University graduates.

4.2 Reasons for use of school library

The results revealed that the two selected schools have a school library with a librarian. The study probed the reasons for which the respondents used the school's library resources (Table 2).

Table 2: Reasons for using school's library resources

	School A		School B		Total	
	Freq.	%	Total	%	Freq.	%
To look for information to supplement teaching notes	55	44.0	39	43.3	94	43.7
To keep abreast with current information in subject area	42	33.6	30	33.3	72	33.5
To make lesson notes	25	20.0	21	23.4	46	21.4
To educate the general public when the need arises	3	2.4	0	.0	3	1.4
Total	125	100.0	90	100.0	215	100.0

Source: Field data, 2015

From the overall responses from both schools shown in Table 2, less than half 94 (43.7%) of the respondents explained that they used school library resources to look for information to supplement teaching notes, 55 (44%) from School A and 39 (43.3%) from School B respectively. Others explained that they used the library resources in order to keep abreast with current information in subject areas 72 (33.5%), to make lesson notes 46 (21.4%), and educate the general public when the need arises 3 (1.4%).

4.2.1 Reasons for non-use of school library

The study examined why respondents did not use the school's library resources.

Table 3: Reasons for not using school's library resources

Reason	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
Opening hours not favorable	12	27.3	7	26.9	19	27.5

<i>Materials available are not relevant for teaching</i>	21	47.7	9	34.6	30	43.5
<i>I am not interested in searching library materials</i>	11	25.0	10	38.5	20	29.0
<i>Total</i>	44	100.0	26	100.0	69	100.0

Source: Field data, 2015

From Table 3, less than half 30 (43.5%) of the respondents indicated that the available materials were not relevant for teaching and this was very common in the School A, 21 (47.7%) as opposed to “I am not interested in searching library materials” in School B 10 (38.5%). Unfavourable opening hours was the least of the reasons given 7 (26.9%) by School B while 11 (25.0%) from School A, indicated “I am not interested in searching library materials” as the least of the reasons for not using the library.

4.3 Access to information in the library

The next issue covered was on support to access information in the library. The results are shown in Table 4.

Table 4: Access to information in the library

Response	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
Through the assistance of a library staff	27	32.9	19	38.8	46	35.1
Through friends who know how to use the library	1	1.2	1	2.0	2	1.5
I usually find what I want but with frustration	14	17.1	3	6.1	17	13.0
I know how to search for library materials	40	48.8	26	53.1	66	50.4
Total	82	100.0	49	100.0	131	100.0

Source: Field data, 2015

From Table 4, both teachers from School A, 40 (48.8%) and School B, 26 (53.1%) knew how to search for library materials. Some were able to access information through assistance of a library staff 46 (35.1%), on their own accord but with frustration 17 (13.0%). Only few, 1 (1.2%) and 1 (2%) for School A and School B used the assistance of friends to search for library materials.

4.4 Types of print sources available in the library

Teachers were asked to indicate print sources available in their school’s library

Table 5: Types of print sources available in the library

	School A		School B		Total	
	Freq	%	Freq	%	Freq	%
Subject textbooks	26	19.7	18	20.5	44	20.0
Storybooks & magazines	83	62.9	62	70.5	145	65.9
Encyclopedias	15	11.3	7	7.9	22	10.0
Dictionaries	7	5.3	1	1.1	8	3.3
Subject Pamphlets	1	.8	0	.0	1	.8
Total	132	100.0	88	100.0	220	100.0

Source: Field data, 2015

From the responses gathered, (as shown in Table 5), story books & magazines emerged as the most available print source in both schools with 83 (62.9%) and 62 (70.5%) from School A and School B respectively. The other available print sources in both schools were subject textbooks and Encyclopedias. School A had 26 (19.7%) and 15 (11.3%) of subject textbook and encyclopedias respectively, while school B had 18 (20.5%) of subject textbook 7 (7.9%) of encyclopedias respectively.

4.4.1 Frequency of obtaining information from school library

Frequency of obtaining information from school's library resources are presented in Table 6

Table 6: Frequency of obtaining information from school's library resources

	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
Very often	9	11.3	5	8.9	14	10.3
Often	14	17.5	7	12.5	21	15.4
Occasionally	28	35.0	26	46.4	54	39.8
Sometimes	20	25.0	9	16.1	29	21.3
Never	9	11.2	9	16.1	18	13.2
Total	80	100.0	56	100.0	136	100.0

Source: Field data, 2015

As shown in Table 6 above, 9 (11.3%) respondents from School A revealed that they found information from the school's library "very often" while 5 (8.9%) respondents from School B indicated same. From the findings, respondents from both school A and B, thus, 28 (35.0%) and 20 (25.0%) respectively, confirmed that they "occasionally" obtained information from the school's library resources.

4.5 Training in using the library

The study also probed if the two selected schools organized in-service training in the use of library for teachers. The results are shown in Table 7.

Table 7: In-service training in the use of the library for teachers

	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
Yes	1	1.0	5	7.1	6	3.6
No	88	88.9	61	87.2	149	88.1
Sometimes	10	10.1	4	5.7	14	8.3
Total	99	100.0	70	100.0	169	100.0

Source: Field data, 2015

A higher proportion 149 (88.1%) of the respondents indicated that their schools did not organize any in-service training in library skills. The results showed that generally formal training on library skills were not organized for teachers.

4.6 Use of electronic resources

The results revealed that the two selected schools have an ICT centre for teachers. The findings also showed that the schools have not subscribed to any academic database. A significant percent of respondents from the two schools used information every day, (97%) from School A and (95%) from School B. The majority of the respondents preferred electronic resources specifically search engines as compared to books, (83%) and (91%) from School A and B respectively. The use of e-books and e-journals were insignificant in both schools, (2.9%) from School A and (2.5%) from School B.

4.6.1 Introduction to the use of Internet

The study looked at how respondents were introduced to the Internet. The results are presented in Table 8.

Table 8: Introduction to the use of Internet

Response	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
I was taught by a friend	16	15.2	11	14.7	27	15.0
I attended Internet school	13	12.4	13	17.3	26	14.5
I learnt it myself	71	67.6	50	66.7	121	67.2
I have no training at all	5	4.8	1	1.3	6	3.3
Total	105	100.0	75	100.0	180	100.0

Source: Field data, 2015

More than half of the respondents 121 (67.2%) indicated that they learnt the use of the Internet on their own. Others were introduced through training at Internet schools 26 (14.5%) while some were taught by a friend 27 (15.0%). However, a few 6 (3.3%) have had no training at all on the use of the Internet.

Table 8 shows that apart from those who learnt it on their own receiving the highest percentage in individual institutions, responses differed on means of introduction to the use of the Internet. Whereas the second most common response at School A, was through introduction by a friend 16 (15.2%) that of School B was through training at Internet schools 13 (17.3%).

4.6.2 Reasons for use of the Internet

On the issue of the reason for use of the Internet, 375 multiple responses were gathered. The results are presented in Table 9.

Table 9: Reason for use of the Internet

Reason	School A		School B		Total	
	Freq.	%	Freq.	%	Freq.	%
Research current materials for updating notes for teaching	75	35.5	60	36.6	135	36.0
To get needed information for teaching	70	33.2	54	32.9	124	33.1
Entertainment	25	11.8	16	9.8	41	10.9
Communicate with friends	41	19.4	34	20.7	75	20.0
Total	211	100.0	164	100.0	375	100.0

Source: Field data, 2015

As shown in Table 9, the most common reason for the use of the Internet was to gather current materials for updating notes for teaching 135 (36.0%). This was evident from both schools with School A, 75 (35.5%) respondents out of 211 going in favor and 60 (36.6%) respondents from School B also sharing the same thought. Other reasons were to get needed information for teaching 124 (33.1%), communicate with friends 75 (20.0%), and entertainment 41 (10.9%).

4.6.3 Frequency of use of the Internet

Teachers were asked to indicate their frequency of using the Internet. The results are presented in Table 10.

Table 10: Frequency of using the Internet

	School A		School B		Freq.	%
	Freq.	%	Freq.	%		
Sometimes	29	28.7	21	28.8	50	28.7
Always	13	12.9	15	20.5	28	16.1
Mostly	58	57.4	36	49.3	94	54.1
Not at all	1	1.0	1	1.4	2	1.1
Total	101	100.0	73	100.0	174	100.0

Source: Field data, 2015

The study also found out that a little over half 94 (54.1%) of the respondents always got the information they needed on the Internet followed by those who indicated sometimes 29 (28.7%), and always 28 (16.1%).

4.6.4 Search engines

Respondents registered their preference for search engines (98%) over other internet resources and the level of effectiveness of search engines was looked into. This section solicited for responses from respondents on their rating of the level of effectiveness of commonly used search engines in retrieving information to meet their teaching needs (Table 11).

Table 11: Effectiveness of search engines

<i>Search Engine</i>	<i>School A</i>		<i>School B</i>		<i>Total</i>	
	<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>
<i>Google</i>	57	60	49	69	106	63.9
<i>Google Scholar</i>	14	26.9	18	39.1	32	32.7
<i>Yahoo</i>	18	29.5	2	3.8	20	17.5
<i>Ask</i>	6	13.6	4	9.3	10	11.5
<i>Bing</i>	6	14.3	3	7.1	9	10.7

Source: Field data, 2015

The research findings presented in Table 11 indicated that 57 (60%) of teachers from School A rated Google as “effective” as against 49 (69.0%) from School B. In rating the effectiveness of Google Scholar, 14 (26.9%) of teachers from School A rated it “effective” as against 18 (39.1%) from School B. In terms of the effectiveness of Yahoo, 18 (29.5%) of the respondent from School A rated it “effective”, while 2 (3.8%) of respondents from School B indicated it as “effective”. The fourth search engine Ask was rated as follows, School A, 6 (13.6%), School B, 4 (9.3%). The fifth search engine Bing was rated by respondents of School A as 6 (14.3%) as against School B 3 (7.1%).

5. Discussion of results

The findings of the study indicated that the schools under study have a school library with qualified librarians and internet facilities. Majority of the teachers in the two selected schools are University graduates, this could be the fact that they have gone through information literacy courses in their various Universities and possess an amount of information literacy skills; hence their ability to use the schools Internet and libraries’ resources to find information to supplement teaching. This finding is in agreement with Korobilii’s (2011) study which revealed that teachers used a variety of resources to support teaching. That notwithstanding, it is highly expected that teachers inculcate into their students some form of IL skills but this is not the case in both schools. This implies the absence of IL skills in students’ academic life at that level. To constitute an information literate society like other developed countries, the Ghana Education Service need to establish a set of Information Literacy Guidelines for schools; this should be implemented across all subject disciplines in all learning environments.

There was no in-service training in information literacy (library and internet skills) for teachers. This finding is not encouraging as the requisite skills needed to effectively use information are embedded in information literacy. Consequently, teacher's need frequent training to be abreast with the current happenings in the field. Teachers gave their reasons for using the library and Internet to satisfy their information needs, (44.0%) and (43.3%) of teachers from School A and School B respectively stated that they used library materials to supplement their teaching notes and to keep abreast with current information in their subject area, School A (33.6%) and School B (33.3%). Other teachers also made mention that they use the library to make lesson notes, thus (20.0%) from School A and (23.4%) from School B. This concurs with the findings of Merchant and Hepworth's (2002) study. Per the findings, there is a missing link in the professional development in IL skills for teachers; consequently, this can adversely affect students' academic performance. In-service training in IL will enhance teachers search skills and enable them try new strategies in finding and using information in the classroom. Also their experiences can be shared with other colleague teachers. To enable effective teaching, IL development training for teachers must be a concerted effort of school heads, the Ghana Education Service, school librarians and the teachers themselves.

The study established that teachers in preparing for their teaching activities used the library to develop materials for teaching and also seek clarity and make teaching notes on a topic or subject to be taught. However, (47.7%) teachers from School A who did not use the library mostly claimed the materials there were not relevant for teaching. This is not surprising as most of the materials found in the libraries were predominantly story books and magazines with 83 (62.9%) and 62 (70.5%) from School A and School B respectively. School B (38.5%) teachers on the other hand, mostly were not interested in using library materials. Access to materials in the library, according to majority of the teachers from both schools, was through their own effort and search skills, (48.8%) from School A and (53.1%) from School B. A considerable number also used the help of a library staff, (32.9%) from School A and (38.8%) from School B. Teachers from School A sought help from Library Assistants more than teachers from School B. On how often, they obtained information from the library's resources, less than half of the respondents, (35.0%) from School A and (46.4%) from School B indicated "occasionally". These findings are no different from a study conducted by Johnson (2000), in Kogi state, Nigeria in which he concluded that secondary school teachers did not find the materials in their libraries relevant. This goes to confirm why they obtained information "occasionally" from the library. As a matter of concern, teacher's refusal to use library materials because they are not relevant is worrying; to address this concern school heads and the Accreditation Board should ensure that libraries are well-stocked with relevant curricular based materials. Subject teachers and school librarians should be involved in the selection and collection development process in order to enable effective evaluation of library materials for libraries. This will diffuse the notion of irrelevant library collections. Furthermore, school librarians should endeavor to assist teachers in using school library resources for teaching.

With the introduction to the use of the Internet, teachers from both schools learnt the use of Internet by themselves, (66.5%) from School A as against (66.7%) from School B. (15.2%) teachers from School A and (14.7%) from School B indicated that they were taught how to use the Internet by friends. Only few from both schools, (1.3%) from School B and (4.8%) from School A though relatively higher in School A, had no training at all in Internet usage.

For respondents who knew how to use the Internet, most of them used it for the purposes of researching for current materials to update their notes for teaching, (35.5%) from School A and (36.6%) from School B. This represents the fact that, most teachers from School B research materials for teaching from the Internet as compared to teachers from School A. On the frequency of use, most of the teachers indicated “mostly”, with (57.4%) from School A and (49.3%) from School A. Comparing this with teachers’ use of the library, it is obvious they preferred electronic sources to print sources. This is in agreement with Herring’s (2006) study which discovered that teachers had preference for electronic sources over print sources. This finding contradicts Korobili et al’s. (2011) study, which indicate that, teachers preferred books over electronic sources. This findings indicates that teachers have their preference in the use of information resources for teaching but lack of awareness or ease of use may results to non-use, therefore there is the need to periodically organize Information Literacy training for school teachers so that teachers will keep abreast with current development in using information resources.

6. Conclusions and recommendations

Based on the findings of the study, teachers from both schools possess a considerable amount of information literacy skills. This is seen in the different ways in which they use information sources from the schools facilities. School A used the library more than school B, School A used the help of library assistant more that school B, School B teachers mostly searched for library materials on their own accord as compared to teachers in School A. Concerning the availability of print materials in both schools, School B indicated that they had more subject textbooks, storybooks and magazines as compared to School A, but on the other hand, School A had more encyclopedias, dictionaries and subject pamphlets than School B. Looking at the introduction to the internet, more teachers in school A indicated that they were taught by friends as compared to teachers in School B but with an insignificant percentage margin. Many teachers in School B indicated that they had attended internet class as compared to teachers in School A. There was only one teacher who had no training in the use of internet in School A as against five teachers in School B. With regards to the use of the internet, School A, teachers used the internet more to research current materials for updating notes for teaching, to get need information for teaching, for entertainment and also to communicate with friends. This implies that School A teachers used the internet more as compared with School A. School A teachers indicated mostly that search engines like Bing, Ask and Yahoo are very effective whiles School B teachers also indicated that Google and Google Scholar are very effective. This findings reveals that School A teachers did better in the use of the library and internet facilities than School B.

No in-service training in information literacy skills is organized for teachers in both schools. Considering the roles that school teachers play, developing their information literacy skills should be taken seriously; one of the surest ways to do this is training them in information literacy and providing for them the needed facilities to operate effectively in schools.

The study therefore recommends that there should be in-service training on IL skills for secondary school teachers by Ghana Education Service. The government and Heads of schools should provide relevant library materials and stable Internet facilities for Ghanaian secondary schools since these are the relevant tools needed for IL development. Also, IL needs to be incorporated into the curriculum for Colleges of Education and Senior High Schools by the Ghana Education Service. To suit the Ghanaian context, an Information Literacy Curriculum for school teachers and senior high school students has been

developed by the authors, see Appendix A. This study will be a base-line and a bench mark for the development, planning, implementing, managing and evaluating IL programs for school teachers and students in Ghana.

Finally, developing information literacy in schools should be a collaborative effort of all stakeholders of secondary schools including teachers.

Appendix A

This curriculum was informed by Tri-District Information Literacy Curriculum 2011

<http://www.riveredgeschools.org/pdf/curriculum/Library%20Curriculum%20K-12.pdf>

INFORMATION LITERACY CURRICULUM FOR GHANAIAN SENIOR HIGH SCHOOL TEACHERS/STUDENTS

Rationale for teaching information literacy

The rationale for teaching Information Literacy is to empower Senior High School teachers/students with the requisite skills needed to survive in this era of information explosion with regards to the use of multiple information sources as well as the responsible use of other intellectual properties. By so doing school teachers/students will adopt the characteristics of the information age thereby learning how to learn for the present and the future. The curricular is relevant in the training development of both teachers and students, therefore its usage is dependent on the audience for the training.

General Aims/Objectives

1. To enable teachers/students to develop the skills needed to access and use valuable information to live, learn and work effectively in an ever changing complex information environment.
2. To equip teachers/students with core competences of information literacy skills, to be able to independently manage and use successfully information from diverse forms and formats.

Philosophy of Instruction

Professional librarians/school librarians are to teach or facilitate the curriculum. The school librarian/teacher librarians and Heads of schools are to collaborate with the Ghana Education Service to inculcate information literacy skills instruction and learning activities across the curriculum of senior high schools by providing:

1. easy and equal access to information,
2. equal access to the school library and its resources;
3. technology for information retrieval eg. internet facilities;
4. educational materials and other information resources that extend beyond the confines of a textbook;
5. teaching and learning activities for sequential instruction in information literacy to promote individual/independent learning as well as lifelong learning.

Mode of student's assessment

1. Students should be assessed based on the content of the curriculum.

Syllabus and Students Objectives SHS 1-3

Specific Objectives	Topic/Scope	Suggested teaching/learning activities
1. Students need to know the initial stages of the research process	Recognition and definition of information need	Teacher guides students to identify and define information needs to satisfy the demands of academic work/classroom curriculum. Teacher discusses that information for learning can be found in print (books, newspapers, dictionaries and encyclopedias) and electronic (audio books, e-books, online subscription databases, internet resources) sources.
2. Students need to acquire learning	Information Seeking	Teacher guides students to develop competence in

skills and strategies to successfully find information		<p>information seeking skills and strategies to identify, locate and access information from varying sources to solve problems and answer questions.</p> <p>Teacher guides students to know the best way to gather information from print and non print sources.</p>
3. Students need to determine the quality and relevance of information resources	Evaluation of Information sources	<p>Teacher assists students to identify credible information sources by using the library and the internet.</p> <p>Teacher assists students to identify and select appropriate information type based on information need.</p> <p>Teacher guides students in groups to discuss and analysis information critically from different sources and determines its importance to a problem or question at hand.</p>
4. Students need to engage with information resources and extract relevant information to answer essential questions	Information Use	<p>Teacher assists students to process information from different sources eg. Primary and secondary sources.</p> <p>Teacher guides students to extract relevant information from multiple sources</p>
5. Students need to know the most effective way to use information and technology to communicate found information	Application new of information	<p>Teacher assists students to determine appropriate methods to present new ideas, solutions and conclusions.</p>
6. Students need to know the responsibilities associated with	Responsible use of information	<p>Teacher assists students to discuss the legal and social issues surrounding the use of</p>

the use of information and technology		information to avoid plagiarism eg. Types of ownership and the protection of intellectual property.
7. Students need to evaluate the research process and final product	Evaluation	Teacher guides students to assess the relevance, accuracy and the completeness of the research process independently and in groups.

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