



Promoting Open and Distance Learning in Ghana: The Benefits of Web-Based Information Literacy Programme for Distance Learners in Tertiary Institutions in Ghana

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Abstract

This paper explored the benefits of web-based information literacy programs for Open and Distance Education at tertiary institutions in Ghana. The purpose was to showcase the importance of developing a web-based information literacy program (WBILIP) for teaching and learning among distance education students and promoting Open and Distance Education at the University of Health and Allied Sciences (UHAS). This required a holistic perspective for in-depth findings, hence a qualitative method was adopted to conduct this study. A purposive sampling technique was used to sample 35 staff members of the four public universities in Ghana and an interview guide was used to conduct face-to-face zoom interviews for each person. The data was analyzed thematically with the aid of NVivo version 12. The thematic analysis provided several findings, some of which are that it enhances communication among colleague users, offers good feedback for evaluating, improving and upgrading online information literacy programs, and provides economic benefits by eliminating the cost and time of attending lecture rooms. It was concluded that WBILIP is very useful and a means of strengthening information literacy skill programs at UHAS.

Subject Areas

Distance and Open Education, E-Learning and Knowledge Management

Keywords

Web-Based Information Literacy Instruction Program, Information Literacy, Distance Learners, Benefits, Importance, Distance Education, Open and

Distance Learning

1. Introduction

Generally, information literacy (IL) has been a growing phenomenon in the library profession for a very long time [1]. As a concept, it was a build-up on the work of the library community called instruction or bibliographic instruction [2], which first began at Harvard College in the early 1920s [3], and later the term was coined by Zurkowski in 1974 [1]. During the 1980s and 1990s, it was combined with computer gadgets to be an electronic program [4].

The importance of electronic resources sparked the growth of public interest and investment in IL programs across the world, which has made IL a common practice among librarians, teachers, and students in academic and non-academic institutions today. For this reason, the United States National Commission on Libraries and Information Sciences proposed that organizations and institutions prioritize establishing a national IL program [1].

Although access to IL programs (also called IL instruction) can be online, manual, or both, the practice of IL in recent times has been more web-based than manual as it used to be. This is due to the addition of computer applications and advanced networks [4]. Hence, more academic institutions adopt, implement and use the web-based IL to meet several purposes especially for promoting distance education.

The concept of Information Literacy is different from the web-based information literacy instruction program [5]. The difference is seen in the definitions of the two concepts. Whereas information literacy is defined by the American Library Association, Presidential Committee on Information Literacy as a set of abilities requiring individuals to recognize when information is needed and can locate, evaluate, and use it effectively [6], information literacy instruction program, also called information literacy instruction [7], on the other hand, is a technique of delivering instruction that comprises a mix of web-based IL, face-to-face classroom time, streaming video conferencing, distance learning by video or television broadcasting, or other combinations of traditional and electronic educational models [8]. The difference in the two concepts above brings to the understanding that IL is not only considered a skill but also a program with functionalities. The WBILIP is a set of approaches that focuses on constructivist theories of advancing collaboration, learning, and effective use of all the resources that the World Wide Web (WWW) can offer [4]. According to Fernández-Ramos [7], WBILIP is the internet and technological application that is specifically designed for teaching, an example being Massive Open Online Courses [4]. WBILIP, therefore, creates asynchronous learning environments at all times to promote collaborative interaction between teachers and learners [9]. Having seen the difference in the two concepts, this study takes a critical look at

the goals of WBILIPs. This is because the program aims to create information literates, who acquire abilities in the application of information resources towards their job are called information literates [10]. And in a distance education system, the goal of WBILIP or instruction is to create a digital environment for online reading and accessing online library resources. This learning environment should take into consideration the framework of information literacy which are the abilities that are confined to the definition of information literacy given by the ACRI, which are information discovery, understanding of how information is valued and produced, and the application of information for developing knowledge [11].

WBILIPs provide IL skills to students, empower them to comprehend the content, assume greater control over their learning activities, and extend or expand their research [12]. Supporting this, Kim and Shumaker disclosed that WBILIP provides students with effective skills that are more relevant for academic success [13]. Kim and Shumaker also state that students who have WBILIP for continuous learning have an improved understanding of the framework and the concepts of information and can navigate libraries for information [13]. Similar findings were reported by Franklin and Kimberly Y. [14], Wema, Ozor and Toner [1] [9]. WBILIP has also been reported to enhance the information evaluation abilities of students with varying impact from one program to another [15]. Web-based inquiry learning model improves the information assessment abilities of pupils. Furthermore, Chen and Chih-Ming claimed that compared to paper-based reading annotations, making annotations through online reading is more structured and supports the presentation of different ideas; facilitates debates and discussion and helps students to organize the structure of the content and to manage the knowledge that they have built while reading online [15].

Synchronization is another critical benefit of WBILIP [5] [9]. According to Wema, among the major purposes of creating a virtual or digital learning environment for WBILIP in an academic setting is establishing environments for asynchronous learning at all times [9]. That is, WBILIP aims to create a virtual learning environment that brings learners together as a single community to enable students to build their identities [9]. Adding to this, Fernández-Ramos disclosed from literature findings that WBILIP offers the opportunities to redress the multiple learning styles at a go [7]. To detail this benefit, Wegener explored the best practices, including humor, that make asynchronous learning more effective [5]. The purpose was to determine if the asynchronous online IL module can successfully provide first-year students of the Singapore Institute of Technology with the best foundational research skills to start their journey of higher education. The study adopted the pre-test and post-test techniques of experimental design by subjecting 248 first-year students to the university library and assisted them to revise and learn skills necessary to plan and conduct a search, choose the appropriate resources, and cite and organize their sources as a baseline. This was repeated later and the statistical analysis of the data brought

to the fore that WBILIP promotes effective asynchronous learning and teaching.

The benefits of WBILIP can be categorized into two—specifically for students and teachers. For teachers and faculty members, it enables them to spend more time teaching the content of courses but little time on teaching research skills [6]. Also, it enables teachers to develop more effective assignments (e.g., concept notes, research papers, projects, etc.), and to receive better and more improved research-related tasks from students [6].

There are also many benefits of WBLIP to students. With WBILIP, students can enhance their skills to discover information, carry out better research, enhance assessment of information skills, develop critical thinking skills by learning deep, and know how to prevent plagiarism [6]. The major advantages of WBILIP are that it makes online learning a much more attractive option for students; it reaches more students than the traditional face-to-face instruction, and it addresses the needs of students who are enrolled in distance education [7].

Many advanced countries have incorporated IL programs into their distance education to promote Open and Distance Learning [16]. The Open and Distance Learning (ODL) is an extended distance education (DE) mode of delivering education and instruction, often on an individual basis, to students who are not physically present in traditional educational settings such as classrooms, lecture halls, laboratories, etc. The DE provides access to learning when the source of information and the learners are separated by time and distance [17] [18]. The growing popularity of DE requires that the necessary academic resources are always available to continue to make ODL attractive to its users. One of the most notable academic resources which are critical to the success of the ODL for distance learners is academic libraries and librarians [17] [18]. Academic libraries are not only inextricably linked to the growth of DE systems but also to the effective delivery of quality distance teaching and learning [19]. Therefore, libraries provide resources and can expand learners' skills and knowledge through IL programs. According to Chen, Li, and Chen, libraries are the best place to execute IL education [15]. In the wake of the increased proliferation of ODL programs, some universities are still attached to the use of traditional methods of instructional delivery such as face-to-face lecturing, and in-person instruction. Consequently, such universities are unable to respond sufficiently to the information needs of their DLs who perceive their instructional settings as being without restrictions of time and place. DLs encounter great difficulty in accessing the libraries' resources. They are unable to use and navigate the library effectively to search for information for their academic work. In effect, even with the current hybrid library system UHAS had put in place a hiatus still exists between DL and UHAS libraries in terms of effective usage. Therefore, there is a need to integrate active learning and collaboration into a web-based information literacy program.

1.1. Problem Statement

The basic characteristics of distance students are a limitation to their full partic-

ipation in academic activities as compared to their counterparts who are enrolled in the traditional classroom institutions. Distance students are adult learners, employed, and mature; they assume family responsibilities and live in either urban or rural areas [20]. These characteristics shape their learning environment which does not fit that of the traditional classroom learning environment. It also limits their access to faculty resources such as bookshops, libraries, internet services, and learning assistantships such as direct interaction with lecturers, teaching assistants, and colleagues unless they travel a long distance to campus. This situation creates learning discomfort and resource limitation, and becomes bottlenecks in their learning. Consequentially, it puts them at a disadvantage because it affects their academic performance and makes them lag behind the academic performance ladder. Despite their peculiar situation, they still maintain the desire to willingly take responsibility for obtaining higher education and skills. Therefore, it is important to address their plight so that it will not worsen.

The WBILIP is essential in this era of ODL, DE, and information overload. It is deemed an appropriate tool to address the peculiar situation of DE students [5]. According to Mole *et al.*, it helps overcome the barriers of space and time in distance learning [4]. It has therefore become the center of Open and Distance Learning (ODL), where electronic library resources, academic staff, and faculty members collaborate to offer the user(s) means of relevant information retrieval and use. WBILIP is therefore considered the latest approach to online learning [5]. There are different teaching formats like PDFs and PowerPoints, and the types of materials such as podcasts, tutorials, games, and videos, and different delivery modalities such as restricted-access and free-access courses that are used by different academic institutions [7]. Due to this situation, the application of WBILIP has never been the same or standardized in libraries across countries [7].

In the case of the University of Health and Allied Sciences (UHAS), the introduction of WBILIP at the institution was with considerable variations. It was a recognition of the need to add IL to the ODL curriculum to enable DLs at the school to learn on their own and know how to locate and access information from credible sources. This was seen as very important to their academic work. However, the traditional face-to-face delivery is still dominant, with little emphasis on the web-based IL delivery methods whereas the distance among students keeps increasing. Hence, there is a need to provide evidence of the usefulness of this program to inform and justify the decision to adopt, implement, and use WBILIP at the University of Allied and Health Sciences (UHAS).

Given the above contextual issue, the study aimed at identifying the benefits of WBILIP for distance students of the UHAS by exploring the WBILIPs of public universities in Ghana. It was in anticipation that the benefits of WBILIP that other tertiary institutions get will serve as evidence enough to support WBIL adoption, implementation, and use at UHAS.

1.2. Research Objectives

The general objective of this study was to develop a home-grown web-based IL instruction program for UHAS. Specifically, the study attempted to: Identify the various IL models available to distance learners at UG, UDS, EPUC, and IUC; and what librarians think about WBILIPs in their various universities.

2. Methodology

This study was grounded on an exploratory case study design and was complemented with a qualitative method for its execution. The qualitative approach was used to collate the qualitative data. The purposive sampling technique was used to select four public universities (*i.e.*, University of Ghana, University for Development Studies, Evangelical Presbyterian University College, and Islamic University College); and to sample 32 staff members of the universities whose positions were related to library activities. For each university, eight (8) participants were selected purposively to represent the institution. These staff members were head librarians, DE Coordinators, Archivists, Electronic librarians, System technologists, and officers of cataloguing and acquisition at each selected university and each was interviewed face-to-face with the aid of an interview guide.

The interview data were transcribed and preserved as qualitative data for thematic analysis in NVivo version 12 by QRS International. Thematic data analysis was used to establish the meaning of the data. With that, the qualitative data were extracted manually from the transcripts in the NVivo application and summarised into various themes. This was done by transcribing data, taking note of items of interest, coding across the entire data set, searching for themes, reviewing themes by mapping provisional themes and their relationships, and defining the themes. The thematic analysis produced key findings on the benefits of the WBILIP.

3. Findings

3.1. Demographics of Participants

Table 1 presents the findings on the background profile of the participants. It summarizes the distribution of gender, age categories, marital status, highest education qualification, and career position according to the institutions of the participants in the study.

Table 1 shows that equal numbers of men and women participated in the study. Many of the participants (*i.e.* 37.5%) were between the ages of 20 and 29 years with only 6.3% between the ages of 60 and 69 years. The majority [20] of participants were married whereas one person was a divorcee. In terms of education, twelve participants had a first degree while seven had a higher national diploma.

3.2. Staff Knowledge about Information Literacy (IL) Skills

All respondents were conversant in matters related to IL skills. However, the

Table 1. Demographics of the participants.

Demographic	UDS	UG	EPUC	IUC	Total
Gender					
Female	4	4	4	4	16
Male	4	4	4	4	16
Age Category					
20 - 29	2	5	2	3	12
30 - 39	-	1	1	2	4
40 - 49	3	-	3	3	9
50 - 59	2	1	2	-	5
60 - 69	1	1	-	-	2
Marital Status					
Divorced	-	1	-	-	1
Single (Not in any relationship)	1	2	2	1	6
Married	6	3	6	5	20
Co-habitation	1	2	-	2	5
Education Qualification					
Degree	3	7	5	5	20
Masters	1	3	2	2	8
Ph.D.	1	1	1	1	4
Job Position					
Head Librarian	1	1	1	1	4
Cataloguing	1	1	1	1	4
Periodicals/Electronic librarian	1	1	1	1	4
Acquisitions	1	1	1	1	4
References/Circulation	1	1	1	1	4
DE Coordinator	1	1	1	1	4
Archivist	1	1	1	1	4
System technologist	1	1	1	1	4

UDS = University for Development Studies; UG = University of Ghana; EPUC = Evangelical Presbyterian University College; IUC = Islamic University College. Source: Author's Construct, 2022.

extent to which respondents were knowledgeable about the subject varied. All the respondents knew the basic components of IL skills and their roles and responsibilities as librarians and support staff. They also knew how to assist students and library users to find the academic resources they need, whether

e-material or physical material in the library. These assertions were corroborated by the following statements:

...To help patrons identify their own needs for information, locate and use information resources effectively and efficiently, use the information to carry out research to avoid plagiarism... {A1}

...Basically, it is about needing information and knowing that you have that need and being equipped with the requisite skills and competencies to know where to get that information and also to be able to evaluate the worth of that information you have accessed... {A2}

...IL itself is the ability to know when there is a need for information to be able to identify, locate, evaluate and effectively use that information for the issue or the problem at hand... {A3}

...knowing when information is needed and being able to find, assess, and use that knowledge effectively for the topic or situation at hand is what information literacy (IL) is all about {A5}

3.3. Benefits of Web-Based Information Literacy Instruction (WBIL) Program

Respondents said that WBIL programs have the potential to help them fulfill their duties as educators of IL skills. It can create awareness among students and faculty about the available online resources and how to easily assess them. However, all respondents said their institutions do not host functional (WBIL) programs. The majority of the respondents however indicated that they rely on YouTube, and library guides on the library websites to gain IL skills. The library guide gives a form of training on how to access and use the information in the library ethically. Some respondents said their institutions (A3 and A1) are in the process of re-developing a robust one for the use of learners.

...it would create awareness about resources and services offered by the library... not functional yet to re-develop. Test trial may be in May 2018... {A4}

...Okay right now for online we don't have the one that we use... {A1}

...No, we don't have. What we wanted to do, which was an idea, we don't have enough time because it is a bit more engaging...If you are offering a course in animal science you just go to that portal. It's an idea but we haven't gotten there. So, for now, we don't have anything... {A2}

3.4. Expectations of a Web-Based Information Literacy (WBIL) Instruction Tool

Respondents see an online instruction tool to be very important in the drive towards improving the IL skills of students. They expect a holistic WBIL skills tool. This tool must be able to teach a person who lacks basic IL skills and the steps that need to be followed when accessing information. Respondents expect the tool to be user-friendly and self-explanatory.

Ease of use and it should be self-explanatory.

...anything that will make it comfortable for me to read without needing an-

ybody's help to understand...so all the necessary steps must be self-explanatory and...at the end of going through what is there, I should be well informed.

...It should be a guide that will guide students to be better people in their quest to attain information. They should know how and when and where to find what information...knowing the worth of the information because not every information is good enough for academic purposes... {A6}

4. Discussion

Information literacy skills refer to the skills and abilities that learners require to become information literate [5] [12]. Some of these skills are searching skills (locate, access, and use), citation skills, referencing skills, query formulation skills, and evaluation skills. Kim and Shumaker emphasized that information literacy instruction is useful, effective, and impactful to students [13]. This study has revealed that the acquisition and development of these information literacy skills are among the immediate major benefits of adopting and using a web-based information literacy program: some participants stated that to find out the benefit of web-based information literacy programs to distance learners, one may want to know and acquire their information literacy skills. This finding corroborates that of Amegashie and Ankamah that information literacy programs equip students with skills in information literacy, which enable them to expand their research and learning activities [12]. Also, it confirms Gross, Latham, and Julien's report that WBILIP enhances skills for assessing information, developing critical thinking through deep learning, and enables users to know how to avoid plagiarism [6].

Directly associated with the above, all the librarians of the various institutions agreed that a robust web-based information literacy program should be developed. They indicated that it will help solve the information literacy skills gap of learners because the majority indicated that they relied on search engines like Google and YouTube for content to help students learn how to access online academic material. This suggests that WBILIP has more impact on learning abilities as disclosed by [15].

Respondents went further to say that web-based information literacy programs were good programs to have in the discharge of their functions as they would create the needed awareness for students and the faculty to know the available online resources and how to easily access them. This finding supports that reported by Gross, Latham, and Julien that WBILIP enables faculty members and teachers to allot more time for teaching and receive better, improved research-related tasks, and carry out better research [6]. Charles thus reported that an information literacy program called TeachMeet, which was developed at the Rutgers University campus is effective and impactful, and has a sustainable impetus for communication affirming the findings of this study that the WBILIP used by the participants has enhanced their communication [21]. This was proven by the statement expressed below.

One of the obvious benefits of online information literacy programs is the asynchronization of all academic activities in the classroom and outside the classroom. Similarly, the WBILIP is considered an asynchronous program that enables all users including administrators and programmers to link and synchronize all available learning (library) resources. This finding affirms many scholarly findings especially, Wema's finding that WBILIP creates a virtual learning environment that brings learners together as a single community [9]. Also, it strengthens the claim by Fernández-Ramos that WBILIP offers the opportunities to redress the multiple learning styles at a go [7]. Moreover, it supports Wegener's finding that WBILIP promotes effective asynchronous learning and teaching [5].

The views of some participants lead to a suggestion that developing and implementing a web-based information literacy program for distance learning helps them to be effective users of information through self-directing, using the program as a guide. In other words, implementing information literacy through web-based programs allows participants to be self-directed and follow their pace thus, maximizing the assimilation of information. This is a confirmation of the discovery by Mole *et al.* that WBILIPs provide participants the opportunity to be self-directed, maximize assimilation of information, and follow their pace [4]. That notwithstanding, it supports Fernández-Ramos finding that it enables students to promote self-paced learning because online materials can be used anywhere and anytime and students can access them [7].

The various expressed statements support the view that an information literacy program is an effective, impactful, and sustainable impetus for strengthening information literacy, teaching, fostering partnership, and promoting professional development [7]. Studies have already demonstrated that the use of WBILIP brings forth economic benefits as well. Empirical findings by Fernández-Ramos support the claim that WBILIP is cheaper and repeatable, and enables students to choose which aspects of the programs interest them [7]. This supports the literature claim that implementing and using WBILIP helps address the financial issues or expenditure of students as it addresses the needs of students who are enrolled in distance education [7].

5. Conclusion

Generally, information literacy has become a very useful skill for promoting distance education all over the world. In developed countries, it has become very common and increasingly is promoting massive open online courses. The significant impact of this online information literacy program can also be a reality in the developing world in that, the findings of the study illustrate that web-based information literacy programs have enormous benefits to both distance learners (students) and faculty members. It is well established that WBILIP practiced by some universities in Ghana equips their distance students with information literacy skills and enables them to develop them, which bridges the gap in informa-

tion literacy skills in the country. Also, it promotes communication among colleague users including faculty members and distance students, promotes amalgamation of learning resources, and makes learning convenient and at one's own pace. Moreover, it provides good feedback for evaluating, improving, and upgrading online information literacy programs. That notwithstanding, it has economic benefits as it removes the cost and time of traveling to lecture rooms. Having discovered these potentials of WBILIP, it is a necessity that, UHAS will have such a program in complete implementation and delivery capacity to enable its students and faculty members to learn IL skills which will help them search, locate, access, evaluate and use material ethically. Also, it will help the distance learners to obtain knowledge and abilities that will assist them in becoming autonomous in their information searches, evaluating the results, and using them ethically to complete academic work. In the end, it is very useful and a means of strengthening the information literacy program at UHAS.

6. Recommendation

Inculcating IL skills in students in line with the Information Literacy Competency Standards can be achieved with WBILIP in place. However, the development of the program should be in line with the best practices identified during the evaluation process such as in: The interactive platform through chat and “ask the librarian”, incorporation of video delivery, regular update of the system, regular evaluation of the program, digital certification, and technical requirements as on the list of things needed to enable access to the program among others.

Conflicts of Interest

The authors declare no conflicts of interest.

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