

Information Technology Literacy: Examples from Academia in Chile and Hawaii

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Abstract. This research describes the challenging task of identifying new required competencies and responding with new ITL programs in two different regions. The first one, in Chile, is part of an Ibero-American initiative, ALFIN (ALFabetizacion en INformacion). The second one, in Hawaii, is part of a nationwide program in the United States, advocated by the American Library Association, the Association of College and Research Libraries, and the American Association of School Libraries, among other agencies. Research findings include the target audience of IT programs; copyright issues; necessary cooperation among domain instructors, education specialists, librarians and technology specialists; tools and systems being considered; and distance education

1 Introduction

ACRL[1] defines information literacy (IL) as the ability to 1) recognize an information need, 2) access information, 3) evaluate information and 4) synthesize information. Computer literacy (CL), on the other hand, is defined as the “level of expertise and familiarity someone has with computers. Computer literacy generally refers to the ability to use applications rather than to program.” (<http://www.webopedia.com>). The term Information Technology Literacy (ITL) is becoming the preferred term as it implies a close relationship between IL and CL.

Research methods and procedures include analysis of documents, action research, focus groups, evaluation of ITL programs and workshops as well as interviews with IL, ITL, and CL program managers, researchers and instructors. The data gathered provided descriptions of the goals, programs, plans, and implementations of both initiatives in Hawaii and Chile. The main purpose of the

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analysis was to identify good practices, challenges, and work necessary to have information literate citizens.

2 Background / Motivation for this study: Information Technology Literacy (ITL)

ITL is a theme that has become a new strategic element in the development of the Information Society. Associated with new educational models, ITL is based on the interaction of teaching, research, and information services. The goal is to have a citizen who is able to critically evaluate information and contribute their own values to the new culture. Quiroga's [2] research on the educational needs for building digital libraries in Latin America showed the importance of having information technology literacy. Different agencies such as government, private, non-profit, and academic institutions made large investments digitizing valuable collections that were not used as expected by instructors and students. A possible reason is related to the lack of ITL competences necessary to integrate digital collections in their teaching and learning.

3 Information literacy in Hawaii and Chile

Hawaii adheres to a set of national standards. The Association of College and Research Libraries ACRL [1] developed the "information literacy competency standards for higher education." The American Association of School Librarians AASL [3] developed IL standards for the K12 community. The standards for student learning include information literacy, independent learning and social responsibility.

In Ibero-America, Spain has made the greatest contribution of Spanish publications that include models, research, proposals, standards, and experiences on "Alfabetizacion en Informacion", ALFIN. There is a commission on ALFIN that is coordinated by the University of Havana in Cuba, with several regional focus points, as part of EDIBCIC (Association of IberoAmerica and the Caribbean teachers and researchers in Archives, Library, Documentation and Information and Science).

In Chile, the University of Playa Ancha, as part of its participation in ALFIN, is leading an initiative aimed at developing regional standards. The recommended national standards developed by the United States are part of the work being studied by the ALFIN group in their search for models that could be adapted and used in the Ibero-American region. The Library Science Program at the University of Playa Ancha created a research line in IL. Several projects financed by the General Direction office allowed the development of models, programs, diagnosis, and evaluation tools as well as a constant reflection and discussion on IL in conferences and seminars. A recent proposal for the creation of a national network to collaboratively work on IL is a step toward collaborative work at the national level. Other initiatives have emerged from the school libraries section of the Ministry of Education. The goal is to provide teachers in middle and high schools with information competences and skills. Other projects aimed at providing IL to the citizens are headed by the Chilean Library of Congress. There is an awareness of the

importance of IL, and a clear interest in developing these competences and skills to the Chilean population.

4 Information Technology Literacy (ITL) issues identified in Chile and Hawaii

In Chile, and as part of a recent research project developed within the framework of ALFIN, Loyola [4] and Matus [5] and a group of students at Playa Ancha University participated in research aimed at identifying their needs regarding ITL competences and skills. Data was gathered using action research, focus groups, interviews, and evaluation of ITL programs and workshops.

In Hawaii, data was gathered by interviewing IL, ITL, and CL program managers, researchers, and instructors in two universities and one community college. They provided descriptions of the goals, programs, plans, good practices, and the challenges they are facing.

4.1 Target audience

In Chile and Hawaii, the emphasis is on educating the students. ITL for instructors is provided indirectly by involving them in the student ITL program. Young students consider themselves competent in computers, information technologies, word processing, and internet searching and browsing mechanisms. From their point of view, that is all that is necessary to be information literate. It was found, however, that they fail at discriminating and assessing the validity and credibility of information. Many of them are unaware of other resources offered in libraries such as online specialized databases and electronic resources. One ITL program, being used in an academic library in Hawaii, invites students to take a pre-test on ITL. Librarians found that taking this pre-test helped students realize their weaknesses and motivate them to enroll in an ITL program.

Some instructors consider themselves to be competent doing research and distinguishing bias, different points of view, and the validity of claims and information. However, many of them have been more concerned with the content of their studies and teaching, leaving aside the ITL skills needed to incorporate digital content in their instruction. Some of them need computer literacy rather than information literacy. In the information technology literacy course offered to graduate students by the Library and Information Science program in Hawaii, students reported a good experience from an activity designed to coach faculty in a personalized, one-to-one fashion. This kind of training seems to be more accepted by faculty than workshops as their information technology competencies and needs vary. These examples point to the need for various kinds of ITL programs that are targeted to different needs and demographics where age is an important element. A significant proportion of university students are returning to prepare for second careers. They are mature persons who might have a different ITL need when compared to their teenage classmates, who were born using technology and who face the rapid changing technologies naturally.

4.2 Copyright

Being competent in the understanding of copyright was mentioned as one of the abilities needed by instructors, especially those working in distance education. Librarians interviewed mentioned that the notion of fair use was more clearly understood in the world of print and analog media. Currently, these librarians perceive that even they need a better understanding of digital copyright laws before trying to educate instructors on these issues. Special collections, such as those in arts, films, and photography, for example, are some of the disciplines where copyright infringement can have serious consequences for instructors and librarians.

4.3 Necessary cooperation

Efforts to foster cooperation among domain instructors, education specialists, librarians and technology specialists were represented in the data that was collected for this paper. Instructional modules must be designed in cooperation with educational specialists in order to produce valid teaching and learning methods and procedures. Librarians contribute their knowledge of sources and information retrieval systems and their ability to identify users' information needs to the design of the instructional modules. In both regions there are programs in Information Technology Services to facilitate instructional design and computer literacy. However, at one Hawaiian university, the library and the instructional design support program are part the same unit. This has made it easier to collaborate, and plans are being made to integrate computer literacy and information literacy.

4.4 Tools and systems

A large variety of ITL tools and systems ranging from complete courses (usually aimed at incoming students), web tutorials, and the use of proprietary collaboration software such as WebCT were used. An interactive system, successfully used by students and instructors affiliated with the University of Hawaii, is the Library Information Literacy Online (LILO) <http://www.hawaii.edu/lilo/>. This system is modeled after the North Carolina State University system for Library Online Basic Instruction. LILO was designed by library faculty in collaboration with instructional design specialists. LILO guides the students in all steps of research. This process includes finding a topic, constructing a thesis, developing search strategies, as well as learning how to cite sources, and avoid plagiarism. In addition, they learned to evaluate information critically for reliability, accuracy, and relevance. A useful feature of LILO allows students to maintain a journal of their research process. This information can be accessed by faculty who want to track students' progress.

In Chile, they primarily use open source software. At the University of Playa Ancha, several web based virtual classrooms have been devised that include ITL modules. In addition, open source blogs are used both to train library staff in ITL and to design ITL instruction.

4.5 ITL and online education

Programs to teach ITL online are being conducted in Chile and Hawaii. LILO is an example previously described in section 4.4. However, it was recognized that little has been done to integrate ITL as part of the curricula for distance education programs. Another element to consider is the need to provide ITL to instructors to increase their participation in distance education. Several studies have explored the relationship between faculty use of information technologies and their participation in distance education delivery. They found faculty more likely to participate in distance education when they think their technology skills are adequate.

5 Information technology literacy challenges in the digital age

ITL is perceived as one of the main roles for librarians in this digital era. To be information technology literate implies the ability to search for relevant information and to organize and maintain our personal digital libraries and collections. It also means we need to be able to use social networking systems such as blogs and wikis to gain the benefit of being active participants in a community of practices; i.e., groups of people with common interests.

A partnership between educators, librarians, IT experts, and domain specialists, among others, with support of government and private organizations, is needed to account for the resources necessary to study and implement the most relevant practices in ITL. A research area of interest includes an analysis of programs and challenges in developing partnerships and linkages aimed at computer literacy, information literacy, and information technology literacy programs.

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