INTRODUCTION

Traditionally, a bibliography is regarded as a list of printed resources (books, articles, reports, etc.) on a given subject or topic for further study or reference purpose (Alred, Brusaw, & Oliu, 2006; Lamb, 2006). According to the Micropaedia (1990), the bibliography refers to “study and description of books.” It is either the listing of books according to some system (enumerative or descriptive bibliography) or the study of books as tangible objects (analytical or critical bibliography). The term webliography is commonly used when discussing online resources. Although there is no clear agreement among educators regarding the origin of this term, many tend to believe that the term webliography was coined by the libraries at Louisiana State University to describe their list of favorite Web sites. It is referred to as “Web bibliography.” Accordingly, a webliography is a list of resources that can be accessed on the World Wide Web, relating to a particular topic or can be referred to in a scholarly work.

A variety of studies suggest that understanding and developing webliographies, which relate to locate, evaluate, organize, and use effectively the needed online resources, are essential for information literacy and technology integration.

BACKGROUND

The rapid technological change and proliferating information resources are lineaments of our contemporary society. Probably the most exciting and significant innovation in education in recent years is the widespread computer-based technology integrating in teaching and learning. Particularly, the World Wide Web is radically redefining how people obtain information and the way people teach and learn. Apparently, more and more educators and students have access to abundant information, and the amount of that information is growing at a staggering speed. However, “the uncertain quality and expanding quantity of information pose large challenges for society. The sheer abundance of information will not in itself create a more informed citizenry without a complementary cluster of abilities necessary to use information effectively” (Association of College & Research libraries, 2000, p. 2). When resources come to individuals as unfiltered, fragmented, and overloaded information, it increases individuals’ information anxiety. Individuals may feel confused and stressed to the overwhelming amount and variety of information available online. As a result, they are unable to access or understand the information they need, and neglect the authenticity, validity, and reliability of information. The question of how to help individuals locate large numbers of diverse and timely resources is, therefore, a major concern of those practicing in education and preparing future practitioners.

Educators have long been concerned with increasing information literacy. The term information literacy was first introduced by Paul Zurkowski in 1974, which had been described as “people trained in the application of information resources to their work can be called information literates. They have learned techniques and skills for utilizing the wide range of information tools as well as primary sources in molding information-solutions to their problems” (Behrens, 1994). Within the last decade, professional organizations have focused and promoted principles and standards of information literacy. In 1989, the American Library Association (ALA) Presidential Committee on Information Literacy called attention to information literacy at a time when many other learning deficiencies were being expressed by educators, business leaders, and parents, and issued a Final Report (1989) for meeting information literacy needs. In 1990, the National Forum on Information Literacy (NFIL) was formed as a response to the recommendations of the ALA Presidential Committee Final Report. In 1998, NFIL published A Progress Report on Information Literacy: An Update on the American Library Association Presidential Committee on Information Literacy: Final Report. In 1998, the American Association of School Libraries (AASL) and the Association of Educational Communications
and Technology (AECT) issued *Information Literacy Standards for Student Learning*. These standards detail competencies for students in K-12. In 2000, the Association of College and Research Libraries, a division of the ALA published *Information Competency Standards for Higher Education*. Today, more and more educators believe that “to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (Association of College & Research libraries, 1989). Particularly, as the Final Report noted, information literate individuals should be able to:

- Knowing when they have a need for information.
- Identifying information needed to address a given problem or issue.
- Finding needed information and evaluating the information.
- Organizing the information.
- Using the information effectively to address the problem or issue at hand.

Furthermore, The National Educational Technology Standards for Students (International Society for Technology in Education, 2000) and Teacher (International Society for Technology in Education, 2002) have attested the trend of being information literate. These standards emphasize technology integration, which personally and professionally use technology to locate, evaluate, and collect information from a variety of sources.

In an attempt to increase information literacy on Web-based resources, many educators have been either creating their own webliographies for further study/reference, or requiring students to develop webliographies as a part of learning process.

**Steps of Developing a Webliography**

Typically, educators and students develop their webliographies through a series of four steps: searching, evaluating, organizing, and updating Web resources.

**Searching Web resources.** As Jonassen (2000) indicated, “getting lost in hyperspace has been a consistent problem for learners using hypertext. When users follow a number of links through a variety of information sources, they get lost (lose awareness of where they are in hyperspace) and forget how they got there” (p. 177). In order to avoid aimless surfing the Web, it is important that educators and students need to focus on specific purposes, formulate and carry out their plans. Dodge (1999) suggested two sequences prior to searching the Web: 1) think about the topic. Jot all the relevant information down on scrap paper to articulate clearly a topic such as target people, terms, organizations, places, objects, and so forth. 2) create a 3M list of search terms. Specify the topic by writing words that must, might, or must not appear in the Web pages.

There are a variety of Web search engines. To use these search engines effectively, educators and students should understand how different types of search engines take actions. “Each search engine operates differently in terms of how a search term can be entered, whether Boolean logic or other advanced search capabilities are supported, and the different truncation symbols that may be used” (Jonassen, 2000, p. 181). For example, Dodge (2005) developed four NETS for better searching by using Google’s advanced search as following (see Figure 1). The N in NETS stands for starting “narrow,” put all the words that would always appear on the perfect page in the *with all of the words* field (must words); put words that may eliminate distracting pages in the *without the words* field (must not words); and put words with synonyms that might appear on the relevant page in the *with any of the words* field. The E in NETS stands for finding “exact phrases,” type a distinctive phrase into the *exact phrase* field to help find some predictable pages. The T in NETS stands for “trimming” back the URL to relocate relevant and missed pages. The S in NETS stands for looking for “similar” pages, use Google’s similarity search to surface a number of sites that are likely to be relevant and interesting.

**Evaluating Web resources.** Locating the relevant information is one thing, deciding whether those resources are useful is another thing. Evaluating Web resources may be time consuming, but it is essential for developing an appropriate and valuable webliography. There are many ways to evaluate Web resources, of which the most frequently quoted and adopted one is Kapoun’s (1998) five criteria, as shown in Table 1.

Meanwhile, some educators are infusing the idea of “triangulation” into their teaching, which requires