Information Literacy: A Framework for Developing Mariners as Lifelong Learners

By
Carl Phillips
Library Director, California Maritime Academy
Vallejo, California, USA
carlphillips@csum.edu

And
William Eisenhardt, Ph.D.
President, California Maritime Academy
Vallejo, California, USA
weisen@mma.edu

ABSTRACT

In this, the information age, there are more possibilities than ever before to be an informed professional mariner and an astute citizen of the world. In fact, businesses within and associated with the maritime industry have corporate information centers and/or are networked to take advantage of online information resources. Information such as patents, specifications, periodical articles, encyclopedias, technical or engineering handbooks, and the Internet can add tremendous value to our work and decision making processes. However, are we systematically educating our students to make the best possible use of information resources during their time at our institutions and after they leave? Are our graduates in control of their learning, self directed and fluent in locating, evaluating, and using information? If not, then they are not adequately prepared to be modern day lifelong learners. More importantly, they will not have the ability needed to maintain professional skills as worldwide mariners.

Information literacy is the term used by those in higher education world wide to label that set of abilities that ensures a person recognizes when information is needed and has the ability to locate, evaluate, and use effectively the needed information. Our various maritime educational institutions should develop top-notch information literacy programs to fully equip our graduates with the abilities to be savvy consumers of information.

This paper will explore the concept of information literacy – its definition, its pedagogical and professional value, its relation to information technology. Standards of competency will be identified. Several model programs from higher education institutions will be highlighted. An institutional quotient test will also be presented to determine the readiness of institutions integrating information literacy into their curriculums.

1. The Information Age

In nearly every corner of the developed world, information is rapidly proliferating. There are more books, magazines, newspapers, newsletters, and scholarly journals being published now than ever before. Increasingly, many of these publications are available online via computer access. The online environment has also produced other unique information resources such as listserv’s, web sites, Internet search engines, chat rooms, and more. Using information now is like drinking from a fire hose.

The technology of information is primarily responsible for its seemingly ubiquitous availability. Computing and telecommunications will continue to evolve to bring us untold access. We already see major developments with satellite and other wireless technologies to extend the availability of the Internet and make it increasingly less expensive. In the near future we can expect to have information at our fingertips without clunky computer...
workstations. We will start to see full access in the form of inexpensive handheld devices anywhere in the world – whether on land or at sea.

At the same time, much information comes to us unfiltered – particularly that which is online. This will likely be the case for quite some time. The Internet is an ungoverned and relatively open environment where anyone can publish and have their work show up on a search engine. Documents can be copied and reworked. As a result, we begin to wonder about validity and authenticity. While much information is easy to access, is it reliable?

As the Association of College and Research Libraries (2000) states, “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.” Most of our workplaces and institutions of higher education do not effectively utilize the information resources available to them.

2. Definition of Information Literacy

Information literacy is a set of abilities requiring individuals to “recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.” (American Library Association, 1989). Over the years, there have been various interpretations of the breadth and depth of what constitutes information literacy. Some have narrowly construed the concept to be no more than the ability to use library tools to find information. Others have taken a much broader view and have raised the intriguing idea that information literacy is “a new liberal art which extends beyond technical skills and is conceived as the critical reflection on the nature of information itself, its technical infrastructure and its social, cultural and even philosophical context and impact.” (Shapiro and Hughes 1996). For most institutions of higher education that have implemented programs of information literacy, the definition adopted lies somewhere in between. Model programs (Smith, 2001) include the following literacy components:

| Tool literacy | The ability to use print and electronic resources including software. |
| Resource literacy | The ability to understand the form, format, location and access methods of information resources. |
| Social-structural literacy | Knowledge of how information is socially situated and produced. It includes understanding the scholarly publishing process. |
| Research literacy | The ability to understand and use information technology tools to carry our research including discipline-related software. |
| Publishing literacy | The ability to produce a text or multimedia report of the results of research. |

2. The Relationship of Information Literacy to Information Technology

It is important to understand the distinction between information literacy and information technology. They are related. Information technology skills enable one to use computers and software. Information literacy is concerned with critical thinking, information searching, analysis and evaluation of content.

Information literacy is a construct for dealing with and selectively navigating the seas of the information age. Computer technology skills are usually necessary, but so are reasoning and discernment. Information literacy is broader than computer literacy. It is ultimately about being self-directed and in control of one's learning.

3. Standards of Information Literacy Competency

Over the years standards have been developed to provide guidance in measuring competence in information literacy. Many times, individual institutions develop their own standards. However, in recent years, the Association of
College and Research Libraries has lead the way in developing model standards. Today most of the best programs look to ACRL and make adjustments based on the needs of the home institution. Many simply adopt the standards in whole. Below are the basic standards outlined by ACRL (2000):

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one’s knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

4. Model Programs in Higher Education

**Australia**

Learn Network, South Australia  
Provides services, publications, a listserv and a web based communications hub.

Deakin University Library, Melbourne  
Instruction and access to quality information resources.

**Europe**

EDUCATE, Ireland, France, Sweden, Spain, UK  
http://educate.lib.chalmers.se/  
A project produced by several institutions of higher education. It is geared towards developing information literacy among scientists and engineers.

**Malaysia**

Universiti Putra Malaysia, Selangor  
http://lib.upm.edu.my/inflite.html  
A course required of all first year students.

**United Arab Emirates**

United Arab Emirates University, Al Ain  
http://www.ibs.uaeu.ac.ae/  
Utilizes modules to instruct students and faculty in library research.

**United States**

California Maritime Academy  
http://www.csum.edu/library/infofluency/  
A developing program consisting of course integrated assignments designed to help first year students meet the ACRL Information Literacy Standards. Course integrated assignments during the second, third, and fourth years create the opportunity for students to become more fluent in their use of information resources.
Earham College  
http://www.earlham.edu/~libr/courses/  
Long considered a model program for integrating library use into the curriculum

Florida International University  
http://www.fiu.edu/~library/ili/iliprop1.html  
A proposal recommending an information literacy requirement of all undergraduates

United States Naval Academy  
http://www.usna.edu/Library/shipmate.htm  
An example of a commitment to information literacy at a military academy

University of Washington, Seattle  
http://www.washington.edu/uwired/  
A highly developed, award winning program.

5. Institutional Readiness

You can encourage or develop an information literacy program at your institution. How you begin depends upon your particular environment. Take a look at the Information Literacy IQ (Institutional Quotient) Test authored by Oberman and Wilson (1998). It is the best instrument available to help you assess the readiness of your institution to integrate information literacy into the curriculum. They suggest that you consider your information infrastructure, your learning/teaching environment, the role of librarians at your institution, and the commitment to information literacy among your colleagues. When answering the questions from the IQ test, you will arrive at a score. As the excerpt below indicates, the score will help you decide upon an approach that will be most appropriate for your institution.

0–3 You are taking "First Steps"  
Why not initiate a local discussion with librarians and faculty about the role of information literacy on your campus?

- Invite a librarian/faculty member from a model program to assist you in beginning a discussion.
- Identify and share some articles on information literacy.
- Check out selected Web sites on information literacy.
- Identify your regional accreditation requirements for information literacy.

4–6 You are "On Your Way"  
Why not form a campus committee or utilize an existing committee, such as a teaching, learning, and technology roundtable to address information literacy?

- Define information literacy.
- Develop a program proposal for information literacy.
- Identify faculty-librarian development opportunities or propose them.

7–9 You are "Experimenting"  
Why not implement a pilot information literacy program?

- Examine "best practices" at institutions similar to your own.
- Construct an assessment tool.
- Consider scalability.
10–11 You are "Full Speed Ahead"

*Why not consider establishing a fully developed information literacy program?*

- Provide an evaluation of the pilot program.
- Clearly articulate the goals of a fully developed information literacy program to faculty and students alike.
- Construct a mechanism for continual evaluation and renewal.

12 + You have a "Model Program"

*Why not consider sharing your information literacy program as a model program?*

- Give a paper at a professional meeting (e.g., AAHE, EDUCOM, CAUSE, a conference in a discipline).
- Maintain a Web site that is linked to the Institute for Information Literacy (I.I.L.) Web site.
- Publicize your success and share your experiences.

6. Pedagogical and Professional Value

Imagine our online resources, corporate libraries, and academic libraries being used effortlessly as we study or just simply think and make decisions. Consider the possible results of our work if we were so fluent in utilizing these resources that they were common place extensions of our personal knowledge base. Currently, these expensive information resources are among the last places that business people, administrators, researchers, and even students look when they need information. (Stenke, 1991). Why? Because the information environment is complex and needs to be learned.

The maritime industry is rapidly changing. So are the associated areas of transportation, supply chain management, and global trade. Innovations in technology will not slow down. We live at a time when our personal knowledge bases must evolve quickly in order to stay abreast of new advances. Many changes lie ahead. Our industry’s ability to identify the need for information — to find information — to critically evaluate and make decisions with that information is key to its health and well being. We deserve to have an industry of mariners who are quick studies — who fully understand the information environment. Let’s graduate mariners who are information literate.

References


