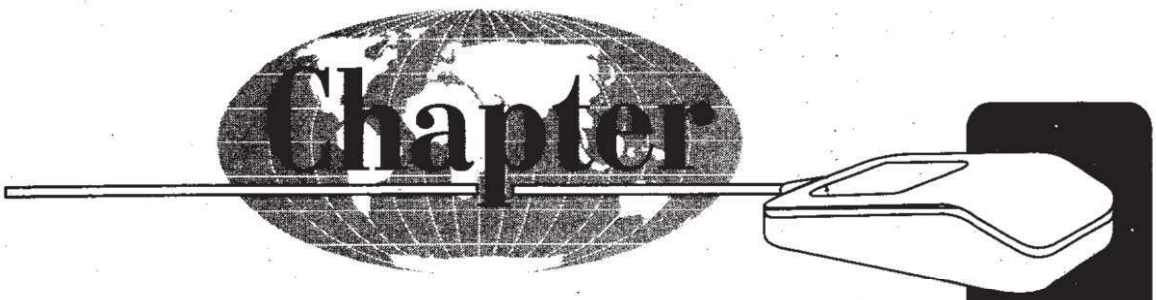

Defining Information Literacy

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In this chapter, we will see how information literacy has been defined by various groups and individuals since its first mention in 1974. We will also briefly examine other literacies that are implicit in information literacy.

In 1974, Paul Zurkowski, president of the Information Industry Association, introduced the concept of "information literacy" in a proposal submitted to the National Commission on Libraries and Information Science (NCLIS). The proposal recommended that a national program be established to achieve universal information literacy within the next decade. According to Zurkowski, "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" (p. 6).

Two years later, Burchinal (1976), in a paper presented at the Texas A & M University library's symposium, suggested: "To be information literate requires a new set of skills. These include how to locate and use information needed for problem-solving and decision-making efficiently and effectively" (p. 11). That same year, Owens (1976) tied information literacy to democracy, stating, "Beyond information literacy for greater work effectiveness and efficiency, information literacy is needed to guarantee the survival of democratic institutions. All men are created equal but voters with information resources are in a position to make more intelligent decisions than citizens who are information illiterates" (p. 27).

Behrens (1994) points out that these and other definitions of the 1970s were developed in response to the rapidly increasing amount of information available and to the fact that it was becoming more difficult to negotiate the complex world of information. During the 1980s, there was a recognition that computers and related technologies were becoming increasingly powerful tools for retrieval and manipulation of information. At the end of the decade, the *Final Report* of the American Library Association Presidential Committee on Information Literacy (1989) not only recognized the importance of information literacy to a democratic society, but provided a definition in terms of requisite skills: "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" (p. 1). This definition has been widely accepted by those within the library field and forms the basis of subsequent definitions.

> *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.*—American Library Association Presidential Committee on Information Literacy, *Final Report*, 1989, p. 1.

In 1992, Doyle published the results of a Delphi study that expanded this definition. Participants in the Delphi study agreed on the attributes of an information literate person, proposing that such a person is one who:

- Recognizes that accurate and complete information is the basis for intelligent decision making
- Recognizes the need for information
- Formulates questions based on information needs
- Identifies potential sources of information
- Develops successful search strategies
- Accesses sources of information including computer-based and other technologies
- Evaluates information
- Organizes information for practical application
- Integrates new information into an existing body of knowledge
- Uses information in critical thinking and problem solving. (1992, p. 8)

Since 1992, information literacy has been the topic of scores of publications and has been examined by educational institutions, professional organizations, and scholarly individuals. Many higher education institutions have formed campuswide committees to work toward including information literacy as a graduation outcome. Some are even calling it a new liberal art. As each group or individual has explored information literacy, new definitions have been offered:

> Implicit in a full understanding of information literacy is the realization that several conditions must be simultaneously present. First, someone must desire to know, use analytic skills to formulate questions, identify research methodologies, and utilize critical skills to evaluate experimental and experiential results. Second, the person must possess the skills to search for answers to those questions in increasingly diverse and complex ways. Third, once a person has identified what is sought, be able to access it. (Lenox & Walker, 1992, p. 314)

Information literate students are competent, independent learners. They know their information needs and actively engage in the world of ideas. They display confidence in their ability to solve problems and know what is relevant information. They manage technology tools to access information and to communicate. They operate comfortably in situations where there are multiple answers, as well as those with no answers. They hold high standards for their work and create quality products. Information literate students are flexible, can adapt to change, and are able to function independently and in groups (Colorado Educational Media Association, 1994, p. 1):

> [Information literacy includes] the abilities to recognize when information is needed and to locate, evaluate, effectively use, and communicate information in its various formats. (State University of New York [SUNY], 1997)

> [Information literacy is] a new liberal art that extends from knowing how to use computers and access information to critical reflection on the nature of information itself, its technical infrastructure, and its social, cultural and even philosophical context and impact. (Shapiro & Hughes, 1996)

> Individuals are information literate if they: recognize that they have a need for information; possess the knowledge and skills that enable them to discover where and how to find the information they are seeking; are comfortable using the necessary tools to find, modify and assimilate that information into another work; and can critically evaluate and synthesize the information they find to understand the social, economic, and political implications of the information. (University of Arizona Library, 1996)

> Information competence is the fusing or the integration of library literacy, computer literacy, media literacy, technological literacy, ethics, critical thinking, and communication skills. (Work Group on Information Competence, 1995, p. 5)

> [Information literacy is] the ability to find, evaluate, use, and communicate information in all of its various formats. (Work Group on Information Competence, 1995, p. 4)

> [Information literacy is] the ability to effectively identify, access, evaluate and make use of information in its various formats, and to choose the appropriate medium for communication. It also encompasses knowledge and attitudes related to the ethical and social issues surrounding information and information technology. (California Academic and Research Libraries Task Force, 1997)

Whether information comes from a computer, a book, a government agency, a film, a conversation, a poster, or any number of other possible sources, inherent in the concept of information literacy is the ability to dissect and understand what we see on the page or the television screen, in posters, pictures, and other images, as well as what we hear. If we are to teach information literacy, we must teach students to sort, to discriminate, to select, and to analyze the array of messages that are presented (Lenox & Walker, 1992, pp. 4-5).

These definitions are examples of the ways information literacy extends into the realms of critical thinking and ethical usage of information. The definitions also include the recognition that information may be presented in a number of formats, from the simple to the complex, and may include printed words, illustrations, photographs, charts, graphs, tables, multimedia, sound recordings, computer graphics, or animation. In the future, there may be other formats for presenting information—formats not yet imagined. It is important that we consider all of these possibilities when we use the term "information" and that we not be tied to the mental image of printed words and numbers. Using information in a variety of formats requires literacies beyond the basic ones of reading and

writing. To negotiate complex information formats, we must also be skilled in other literacies: visual, media, computer, network, and, of course, basic literacy. Let's examine these in turn.

Visual Literacy

When we look at visual information such as photographs, illustrations, or computer graphics, we rely on our previous perceptions of the world to make sense of the visual images. Visual literacy is defined as the ability "to understand and use images, including the ability to think, learn, and express oneself in terms of images" (Braden & Hortin, 1982, p. 41). Visual literacy may be divided into three constructs:

- Visual learning
- Visual thinking, and
- Visual communication (Randhawa & Coffman, 1978).

Visual learning refers to "the acquisition and construction of knowledge as a result of interaction with visual phenomenon" (Moore & Dwyer, 1994, p. 107). Visual thinking involves the ability to "organize mental images around shapes, lines, colors, textures, and compositions" (Wileman, 1980, p. 13). Visual communication is defined as "using visual symbols to express ideas and convey meaning" (Moore & Dwyer, 1994, p. 109). Visual thinking and visual learning may come more easily than visual communication. Although many are born with talents for visualization and artistic expression, others are not. For those with less innate artistic ability, visual communication may be accomplished by using a camera or a computer graphics program.

Media Literacy

In 1992, representatives of the media literacy movement met at the National Leadership Conference on Media Literacy and agreed to define media literacy as the ability of a citizen to "access, analyze, and produce information for specific outcomes" (Aufderheide, 1993, p. 6). Those who advocate media literacy recognize the influence television, motion pictures, radio, recorded music, newspapers, and magazines have on us daily. The media literacy movement also recognizes the fact that educators have traditionally spent a preponderance of time teaching reading and little time focusing on media literacy.

In reference to the teaching of media literacy, Cortes (1992) notes that both fictional and nonfictional media provide information; help organize information and ideas; help create, reinforce, and modify values and attitudes; help shape expectations; and provide models for action. By developing lessons organized

around these five assumptions, teachers can help students to be critical viewers and listeners who realize that all media are constructions that contain implicit messages.

Computer Literacy

Computer literacy is generally thought of as familiarity with the personal computer and the ability to create and manipulate documents and data via word processing, spreadsheets, databases, and other software tools. Often these skills are taught out of context in special computer classes. Eisenberg and Johnson (2002), however, believe that the computer is a tool that facilitates and extends our abilities to learn and to process information. For example, students can use e-mail to contact their classmates or their teacher to clarify an assignment, or they can use presentation software to present information to the class. As such, computer literacy is seen as an integral part of education and not as a separate entity.

The Computer Science and Telecommunications Board of the National Research Council are redefining computer literacy as *fluency with information technology* (FITness) in the higher education arena (1999). We address this distinction further in Chapter 9.

Digital Literacy

Digital literacy considers the broad range of resources that are accessible online and underscores the importance of looking at each of these resources with a critical eye. Emphasis is placed on the format of the information presented and the special considerations that each type of resource presents. For instance, according to digital literacy expert Paul Gilster, information received though e-mail might raise the following issues:

> An electronic mail address is the most basic clue to authorial experience and intentions; it allows you to probe more deeply into what the author has put on-line. The ability to engage in a dialogue with the source of your material is largely unique to the Internet. A friendly note will often lead to further material, as the author can cite his or her sources or suggest other sites with information that might be valuable to you. (1997b)

Many educational institutions are recognizing in digital literacy a practical way to teach information skills through primers and tutorials. Humboldt State University Library has created the Digital Literacy Closet, a resource center

where students and faculty can receive expert assistance as they learn to manipulate new information resources. Syracuse University's School of Information Studies recently established the Center for Digital Literacy, an interdisciplinary research and development center encouraging the development of digital literacy skills across generations.

Network Literacy

Closely related to computer literacy is "network literacy," a term that is still evolving. To locate, access, and use information in a networked environment such as the World Wide Web, users must be network literate. McClure (1993), noting that the following can be the basis for discussion and research, describes network literacy in terms of knowledge and skills for the general public. A network literate person is one who:

- [Has] an awareness of the range and uses of global networked information resources and services
- [Has] an understanding of the system by which networked information is generated, managed, and made available
- [Can] retrieve specific types of information from the network using a range of information discovery tools
- [Can] manipulate networked information by combining it with other resources, enhancing it, or otherwise increasing the value of information for particular situations
- [Can] use networked information to analyze and resolve both work and personal related decisions and obtain services that will enhance their overall quality of life
- [Has an] understanding of the role and uses of networked information in problem solving and in performing basic life activities. (p. 160)

Table 1.1, "Elements of Information Literacy" (page 10) analyzes visual, media, computer, and network literacy in terms of information literacy. These literacies, as well as others discussed in the literature (e.g., cultural, scientific, technical, global and mathematical), focus on compartmentalized aspects of literacy. Information literacy is, in contrast, an inclusive term. Through information literacy, the other literacies can be achieved.

Table 1.1 Elements of Information Literacy

Information Literacy	Visual Literacy	Media Literacy	Computer Literacy	Digital Literacy	Network Literacy
An information literate person is one who:	Visual literacy is:	Media literacy is:	Computer literacy is:	Digital literacy is:	A network literate person is one who:
• recognizes that accurate and complete information is the basis for intelligent decision making,					
• recognizes the need for information,					
• formulates questions based on information needs,					
• identifies potential sources of information,					has an awareness of the range and uses of global networked information resources and services;
• develops successful search strategies,					has an understanding of the system by which networked information is generated, managed, and made available;
• accesses sources of information,		the ability to access,			can retrieve specific types of information from the network using a range of information discovery tools;
• evaluates information,	the ability to understand	analyze,		the ability to understand	
• organizes information for practical application,	and use images,	and produce information for specific outcomes. (Aufderheide, 1993)	the ability to create and manipulate documents and data via software tools.	and use information in multiple formats from a wide range of sources when it is presented via computers. (Gilster, 1997b)	can manipulate networked information by combining it with other resources, enhancing it, or otherwise increasing the value of information for particular situations;
• integrates new information into an existing body of knowledge, and	including the ability to think, learn, and express oneself in terms of images. (Braden & Hortin, 1982)				can use networked information to analyze and resolve both work and personal related decisions and obtain services that will enhance [his or her] overall quality of life;

Summary

Whatever our personal definition of information literacy may be, it is likely to stem from the definition offered in the *Final Report* of the American Library Association Presidential Committee on Information Literacy, "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" (1989, p. 1). As we have seen, this definition is reflective not only of the work of Zurkowski but of others who have sought to shape the concept. Let's summarize the key points of this chapter:

- The concept of "information literacy" was first introduced in 1974 by Paul Zurkowski.
- The American Library Association definition of information literacy, "To be information literate requires a new set of skills. These include how to locate and use information needed for problem-solving and decision-making efficiently and effectively" (1989, p. 11), forms the basis for expansion of the concept.
- Alternative definitions for information literacy have been developed by educational institutions, professional organizations, and individuals.
- Because information may be presented in a number of formats, the term "information" applies to more than just the printed word. Other literacies such as visual, media, computer, digital, network, and basic are implicit in information literacy.