A Conceptual Analysis and Historical Overview of Information Literacy

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A conceptual analysis is undertaken of information literacy *by investigating some leading definitions and delineations of the concept. These are analyzed with the intention of exploring chronological extensions in the meaning of the concept. The range of skills and knowledge required for information literacy has expanded over the last two decades in order to accommodate the continually developing requirements for effective information handling, and the article notes how the library and information science (LIS) profession is responding to these requirements. The review concludes by identifying three main trends in information literacy which are evident from the literature of the early 1990s.*

Information literacy is an abstract concept. As a metaphor, it is a neatly packaged—and imaginative—descriptive phrase that is not literally applicable or easily interpretable, implying something more qualitative and diffuse than is evident in the historical meanings of both *literacy* and *information*. Symbolically, information literacy appears to represent the ability to use information, or possibly the possession of a knowledge of information.

In order to ascertain how the concept has come to have its current meaning and to identify what skills and knowledge are required of a person in order to be information literate, some definitions suggested since the 1970s will be analyzed. At the same time, the future scenario for information literacy in the LIS field will be outlined by identifying what the current trends appear to be from the latest literature.

Owing to the abundance of literature on information literacy, only a few of the major definitions can be analyzed for the purposes of this article.[1] The review concentrates on literature emanating from the United States; however, for purposes of comparison, reference is made to some definitions discussed in the Netherlands, since the Dutch meaning of information literacy was originally more computer-oriented, but now appears to be moving closer to the meaning ascribed to the concept in the United States.

DEFINITIONS OF THE 1970s

In a proposal submitted to the National Commission on Libraries and Information Science (NCLIS) in 1974, Paul Zurkowski, the president of the Information Industry Association (IIA), suggested the goal of achieving information literacy in the country within the following decade. Zurkowski described the information service environment within which people who were searching for information operated in the United States. He described several information products and services provided by the private sector (nongovernment, nonlibrary-based business firms), including information banks, information bank vendors, publishers, information by-products, and information evaluation

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activities. The traditional relation between these information activities and libraries was then outlined. Zurkowski considered how the traditional roles of libraries and private sector information activities were in a state of transition. He also suggested policy questions that needed to be resolved so that this environment could be maximized in order to strive for an information-literate nation.

Zurkowski was the first to use the concept of information literacy: "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."[2] In this definition Zurkowski suggested that: (1) information resources are applied in a work situation; (2) techniques and skills are needed for using information tools and primary sources; and (3) information is used in problem solving.

The concept of information literacy appeared again in 1976, in a paper presented by Lee Burchinal at the Texas A & M University library's symposium which considered the future of organizing knowledge: "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."[3] Burchinal's definition linked information literacy with: (1) skills that include locating and using information; (2) the use of information for problem solving and decision making; and (3) efficient and effective information location and utilization.

In the same year Burchinal's definition appeared, a different meaning of information literacy was offered from outside the librarianship field. Cees Hamelink, a consultant for mass communication research, used information literacy to refer to a need for the public to be liberated from the oppressive effects of institutionalized public media whose structures were characteristically controlled and restrained and which provided "pre-digested explanations" on events in the world. His point was that people needed to be given the chance to make their own decisions, within their own contexts, of news events. Hamelink made suggestions for alternative news channels or information networks that would be independent from political and economic interest: "The most essential contribution to alternatives which could counteract the dominant channels of public communication would be learning an alternative use of information."[4]

Hamelink saw this alternative use of information as related to information literacy, defined as the ability to obtain a wholistic, individual, and independent perspective on news events. Although Hamelink's approach, related to interpreting news events, was not followed up in the later meanings of information literacy, it does relate obliquely to an American definition of information literacy, also provided in 1976. Major R. Owens, in contemplating the future of libraries and librarians, suggested a connection between active citizenship and information literacy:

> 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. The application of information resources to the process of decision-making to fulfill civic responsibilities is a vital necessity.[5]

In 1979 the IIA presented a definition of information literacy that did not include the confining specification of information being used in the workplace, as was the case with Zurkowski: "The IIA defines an 'information literate' as a person who knows the techniques and skills for using information tools in molding solutions to problems."[6] The same year, in an article on the future of the librarianship profession, Robert Taylor introduced the concept of information literacy, noting that

> an approximate definition of [information literacy] would include the following elements:

- that solutions to many (not all) problems can be aided by the acquisition of appropriate facts and information;
- that knowledge of the variety of information resources available (who and where) is a requisite of this literacy;
- that the informing process, which is continual, is as important as the spot information process, which is occasional; and
- that there are strategies (when and how) of information acquisition.[7]

Taylor linked the library profession with information literacy, and noted that the concept suggested that many (but not all) problems could be solved through the use of information, that a knowledge of information resources (both people and organizations) is necessary, and that there are strategies for the acquisition of information.

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In analyzing the definitions proposed during the 1970s, one can infer that information was seen as essential to society, and that information handling was becoming more complicated, owing to the perceived exponential growth in the amount of information available. Burchinal believed that a new set of skills was required, and that the location and utilization of information had to be efficient and effective. Most definitions stress the use or application of the information once it has been located, as well as its use for problem solving. The use not only of information but also of the information tools that provide access is mentioned by Zurkowski and the IIA. Many of the definitions arose in situations where the future role of libraries and librarians was under deliberation, indicating a connection between the LIS profession and information literacy and also possibly a change in direction of attitudes toward information provision. The definitions of the 1970s highlighted a number of requirements for information literacy, but did not reach the point where they identified the actual skills and knowledge required for information handling at that time.

DEFINITIONS OF THE 1980s

By the start of the 1980s, new information technologies had begun to permeate society. In 1982 the IIA produced a four-volume survey of the information infrastructure of the United States.[8] The new technologies of the decade had come to be recognized as an important feature of information literacy; the survey referred to information literacy as a "gap which . . . divides the information sophisticate who knows how and when to use the technology and does so easily and efficiently from the information naive who cannot use the technologies and hence has limited access to knowledge resources."[9]

In the same year, *Time* magazine chose the computer as Machine of the Year, and, inspired by the feature, Forest Horton considered the potential role that computers had as a resource in an information age. He referred to *Time*'s consciousness-raising of the computer's problem-solving capabilities as *computer literacy*: "Computer literacy has to do with increasing our understanding of what the machine can and cannot do. There are two major components of computer literacy: hardware and software."[10] He went on to explain, however, that information literacy extended beyond computer literacy. In spite of Horton's simplistic explanation of computer literacy, his ensuing definition of information literacy is worth noting. The definition signals the transition to the 1980s, bringing us into the realm of computer-aided information manipulation: "Information literacy, then, as opposed to computer literacy, means raising the level of awareness of individuals and enterprises to the knowledge explosion, and how machine-aided handling systems

can help to identify, access, and obtain data, documents and literature needed for problem-solving and decision-making."[11]

The computer-aided tools and resources that Horton lists provide an indication of how the application of computers to the manipulation of information was gaining ground by the beginning of the 1980s: online databases, telecommunications services, electronic mail, abstracting and indexing services, custom searches, government and foreign information resources, alerting services, data analysis services, and library networks. William Demo followed a similar line of thought in 1986 by considering the technological innovations that were available to process, store, retrieve and transmit vast amounts of information. He listed examples of new technologies such as microcomputers, cable TV, electronic publishing, fibre optics, satellite communications, videotext, online database searching, high-density CD-ROM storage, and robotics.[12] His point was that in order to master these technologies a new intellectual skill was needed. This new skill he regarded as information literacy. Although Demo did not suggest a working definition of information literacy, he pointed out that only people who possessed the necessary skills would be able to benefit fully from the information age.

It is apparent that by the middle of the 1980s the advancing information technology (IT) had begun to affect the information handling requirements for information literacy. Demo noted that, along with traditional literacy skills, information literacy forms the common prerequisite for lifelong learning. He also observed that the meaning of information literacy could be explained from different perspectives, depending on whether librarians, educators, or communication experts define the term. He suggested that, of all the existing definitions, one emanating from the field of library user education represented one of the most detailed endeavors to define information literacy in a functionally relevant way.[13] This particular definition had been proposed the year before, and remains one of the most detailed expositions to date. The definition can also be seen as an important milestone in the information literacy movement, since it marks the point at which information literacy and library user education appear to meld, and information literacy becomes a dominant issue in librarianship.

The definition lauded by Demo was created in 1985 for the Auraria Library at the Denver campus of the University of Colorado, which also serves the Community College of Denver and the Metropolitan State College. The library was investigating how its user education program could evolve to ensure the information literacy of its 30,000 students who ranged from eighteen-year-olds to older adults:

> General definition: Information literacy is the ability to effectively access and evaluate information for a given need. (Developed by Martin Tessmer, 1985.)
>
> Characteristics of information literacy:
> - an integrated set of skills and knowledge
> — skills (research strategy, evaluation)
> — knowledge of tools and resources
> - developed through acquisition of attitudes
> — persistence
> — attention to detail
> — caution in accepting printed word and single sources
> - time and labor intensive
> - need-driven (a problem-solving activity)
> - distinct but relevant to literacy and computer literacy.
>
> Information literacy is *not*:
> - (only) knowledge of resources
> - library dependent (as sole source)
> - information finding (also understanding and evaluating).[14]

A number of important aspects of this definition can be highlighted:

- An integrated set of skills is included as one of the characteristics of information literacy. These skills are identified as research strategy and evaluation.
- Information literacy extends beyond mere locating of information to include understanding and evaluating the information.

- The library is not the only source of information.
- Information literacy requires particular attitudes, such as the awareness of a need for information and the accurate application of the information.

Coming as they do from the user education field, where the general accent was traditionally only on locating information in a library, the points indicate the broader perspective that user education would take in the future. The definition suggests the wide parameters of possible information resources, and implies that information seeking is not confined to locating information in libraries.

During the 1980s, attention was also paid to the place of information literacy within the literacy spectrum of an information society. For example, in 1987 Carol Kuhlthau asked the question:

> What does it mean to be literate in an information society? Information literacy is closely tied to functional literacy. It involves the ability to read and use information essential for everyday life. It also involves recognizing an information need and seeking information to make informed decisions. Information literacy requires the abilities to manage complex masses of information generated by computers and mass media, and to learn throughout life as technical and social changes demand new skills and knowledge.[15]

Jan Olsen and Bill Coons also considered information literacy within the wider literacy spectrum:

> We define information literacy as understanding the role and power of information, having the ability to locate it, retrieve it, and use it in decision making, and having the ability to generate and manipulate it using electronic processes. In short, information literacy is a necessary expansion of the traditional notion of literacy, a response to the revolution in which we are living.[16]

By the second half of the decade, academic librarians were reviewing their user education programs with a view to the future.[17] A paradigm shift had started as they reassessed their goals: ". . . information literacy instead of library literacy."[18] By the end of the decade, instruction in library skills was considered to be "too small a concept for the needs of education in an information society" and many user education programs were being replaced by those aiming to achieve information literacy.[19,20] At this stage of the 1980s, libraries in the United States were paying particular attention to their role in the learning process, as a result of several reports on the necessity for educational reform in the country, such as *A Nation at Risk* and *College*.[21] The adoption of the information literacy goal was the library profession's response to having its role essentially ignored or overlooked in the educational reform process. Librarians now began paying attention to the connection between user education, information literacy, and lifelong learning.

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In 1987 a national symposium on "Libraries and the Search for Academic Excellence" was organized jointly by Columbia University and the University of Colorado, to consider the role of academic libraries in educational reform. Those attending included university lecturers and administrators, library educators, and representatives from government, business, and educational associations. In reporting on the symposium, Patricia Breivik gives an indication of the issues of the time and the direction in which academic libraries were heading. She notes that there was consensus at the symposium that, in order to improve undergraduate education, it would become vital for libraries to integrate fully with the learning process.[22] This was an aspect which the *College* report had highlighted, complementing several of the educational reform reports such as *A Nation*

at Risk which had suggested that students should be prepared for lifelong learning. Breivik explains:

> To accomplish this [lifelong learning], students need to become "information literate," whereby they:
> - Understand processes for acquiring information, including systems for information identification and delivery.
> - Can evaluate the effectiveness of various information channels, including libraries, for different kinds of needs.
> - Master basic skills in acquiring and storing their own information, e.g., database skills, spreadsheet and word processing skills, and book, journal, and report literature.
> - Are articulate, responsible citizens in considering public policy issues relating to information, e.g., copyright, privacy, privatization of government information, and issues yet to emerge.[23]

Further thoughts at this 1987 conference were that, for students to become information literate, information handling skills (incorporating new technology applications) should be mastered at the undergraduate level, and taught within existing academic courses rather than in separate user education programs.

Thus, as the awareness of the importance of information literacy grew in momentum in the late 1980s, there was the conviction that the necessary information skills should be taught by integrating them into existing curricula. Information literacy had become a general educational issue, with librarians as library skills teachers playing a leading role. By the end of the decade, the role of library skills in teaching critical thinking was being explored, and user education programs were expanding to encompass the wider implications of teaching information literacy, as W. B. Lukenbill explained: "When applied to library use, information literacy involves going well beyond location skills and correct answer responses, into educating users in abilities which build insight and promote the development of strategies which help structure successful approaches to solving information needs."[24]

Not all approaches to information literacy were library-oriented in the 1980s. In the Netherlands, the Advisory Committee for Education and Information Technology (ACEIT), formed in 1981, recommended in its first report in 1982 that a new subject ("Learning about information technology") be introduced into general secondary education. The National Institute for Curriculum Development started a national project in 1983, aimed at introducing all students in lower secondary education (age group twelve to sixteen years) to IT; the goal of the project was to integrate this into the general curricula.[25] In its second report, in 1984, the ACEIT called this proposed new subject "Information literacy and computer literacy (ICL)" defining it as "the knowledge and skills concerning the use of computers for getting information to solve a given problem or to know more about a certain subject, as well as for the control of processes."[26]

The concept of ICL differed from information literacy as understood in the USA, as, in the Dutch sense, "information and computer literacy" was "not aimed at computer literacy in the meaning of learning programming skills and how to operate a computer, but an introduction to 'information and computer science' conceived of as that part of computer science and information science that every citizen should know."[27]

The provisional ICL curriculum distinguished four main aspects: applications of IT; information and data processing; data-processing systems; and the social significance of IT.[28] It thus appears that ICL as envisaged in the Netherlands in the 1980s had more to do with IT (essentially computers) than with information handling in general.

The 1980s closed with the publication of two important documents in the United States, both emphasizing the role of the library in information literacy teaching: a book by Patricia Breivik and E. Gordon Gee (that developed from the aforementioned 1987 conference) which focused on the role of libraries in attain-

ing improvements in higher education, and a report from the American Library Association.[29] Both documents placed information literacy firmly at the forefront as a combined library and educational issue. The Breivik and Gee book was published under the auspices of the American Council on Education, thereby indicating that the importance of information literacy was being acknowledged at the national level in the educational sector.[30]

At the time of their book's publication, Breivik and Gee were the librarian and the president respectively of the University of Colorado. Their common belief is that quality education should help students to become lifelong learners, the requirement being that students need to become "effective information consumers who are able to locate pertinent information for any need in their personal or professional lives"—that is, students need to become information literate.[31] Breivik and Gee's philosophy is that in an information society, the ultimate measurement of the quality of undergraduate education is whether students are self-directed, independent learners. They believe that the library has a pivotal role in education:

> Libraries are where the knowledge of all disciplines is related within a meaningful framework. Libraries provide a model for the information environment in which graduates will need to work and live. Libraries are a natural environment for problem-solving within the unlimited universe of information. Libraries provide the framework for synthesizing specialized knowledge into broader societal contexts. And finally, libraries and librarians can help students master critical information-literacy skills.[32]

The University of Colorado's approach to introducing information literacy into the curriculum provided the framework for the issues discussed in the book. In common with many other American universities in the late 1970s, undergraduates at the University of Colorado had been required to take courses in computer literacy. However, this was found to be inadequate preparation for information literacy. The university's librarians were taking a leading role in the information literacy movement, and the university's administrators were convinced that the library had an important role to play in the educational reform under way. The partnership formed between the library and the university administration paved the way for the introduction of resource-based learning across the curriculum at the University of Colorado.

Breivik and Gee emphasize the importance of partnerships in striving for information literate graduates: partnership between the university administration and the library; partnership between the classroom and the library; and partnership between the business community and the library.[33] Information literacy teaching is thus seen as the joint responsibility of the library, the whole university, and the community for which it provides human resources.

The second major document that appeared in 1989 was the report of the ALA Presidential Committee on Information Literacy. The report emphasized the importance of achieving information literacy and stressed that it could be achieved only by means of a new model of resource-based learning. The report was widely publicized and gained significant attention worldwide. As a result, the ALA's definition of information literacy is the most frequently used today:

> 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. . . . Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand.[34]

The ALA report discusses the importance of information literacy to individuals, business, and citizenship, stressing the importance of information for problem solving and decision making. Recommendations for improving the standard of information literacy concentrate on reducing the gap between the classroom and the library by introducing a new model of learning:

> What is called for is not a new information studies curriculum but, rather, a restructuring of the learning process. Textbooks, workbooks, and lectures must yield to a learning process based on the information resources available for learning and problem solving throughout people's lifetimes—to learning experiences that build a lifelong habit of library use. Such a learning process would actively involve students in the process of
> - knowing when they have a need for information
> - identifying information needed to address a given problem or issue
> - finding needed information
> - evaluating the information
> - organizing the information
> - using the information effectively to address the problem or issue at hand.
>
> Such a restructuring of the learning process will not only enhance the critical thinking skills of students but will also empower them for lifelong learning and the effective performance of professional and civic responsibilities.[35]

The report incorporates all the foremost issues that appeared in definitions of information literacy throughout the 1980s and, most importantly, *identifies the actual information handling skills* required for information literacy. As a result of this report, the National Forum on Information Literacy was established to continue promoting the concept of information literacy in the United States.[36]

As interest in information literacy increased during the late 1980s, the literature shows a considerable augmentation in the meaning of the concept compared with that of the previous decade. The 1970's definitions had emphasized the fact that information literacy required a new set of skills for the efficient and effective utilization of information and its access tools, and that the use or application of the located information was intended for problem solving.

Definitions during the 1980s added the following scope to information literacy:

- New information technologies have to be taken into consideration with regard to the manner in which they can assist information handling, and the skills which are required for their use.
- Particular attitudes, such as the awareness of a need for information, a willingness to locate and use information, the appreciation of the value of information, and the accurate application of the information, are required.
- Higher order critical thinking skills such as understanding and evaluating information are necessary; mere location of information is insufficient.
- Although libraries are regarded as major repositories of information sources, they should not be seen as the only resources.
- Library skills are not sufficient for complete information literacy; neither are computer skills.
- User education programs require a paradigm shift in order to accommodate the full range of skills required for information literacy.
- In an information society, information literacy could be seen as an extension of the literacy realm.
- Information literacy is a prerequisite for active, responsible citizenship.
- The goal of information literacy is the attainment of lifelong skills which enable the person to be an independent learner in all spheres of life.
- Information literacy teaching can enhance the attempts at educational reform which aim at producing independent learners.
- The teaching of information literacy is a combined librarianship and educational issue that requires a partnership between the two disciplines.
- In order for information literacy teaching to be effective in the educational sphere, the skills should be

taught across the curriculum in a resource-based learning approach.

- Various information skills are required for information literacy:
  - knowing when there is a need for information
  - identifying the information needed in order to address a problem
  - finding the needed information
  - evaluating the located information
  - organizing the information
  - using the information effectively to address the problem.

By the end of the 1980s, information literacy was no longer an embryonic concept. It had been defined with clarity, and its realm comprehensively delineated by the identification of the actual skills and knowledge that are required for information handling in an information-permeated, technologically advanced society.

TRENDS IN THE EARLY 1990s

By the start of the 1990s, the meaning of information literacy as proposed by the ALA was generally accepted. Information literacy had become a major issue in librarianship, since the profession saw in it a way that its members could make a contribution toward a society of lifelong learners. Three main trends are apparent in the 1990's literature to date: educating for information literacy is enjoying attention; information literacy is being considered as part of the wider literacy continuum; and librarians are evaluating their role in the information literacy movement.

Educating for Information Literacy

Although the introduction of information literacy courses or programs was evident in the second half of the 1980s, the latest literature indicates that the trend is continuing worldwide, spurred on to a large extent by the ALA report. Several information literacy courses or programs that have been introduced at universities are discussed in the literature.[37] Attention is also being paid to models and theories for curricula for information literacy.[38] Most models originate from the LIS field, many showing roots in previous user education programs offered by academic libraries.

In the Netherlands, by the start of the 1990s, the information and computer literacy (ICL) course introduced in 1983 was being taught at nearly all secondary schools. Ongoing curriculum development in the Netherlands has provided more clarity on the Information Science element of ICL:

> ICL will involve the knowledge and skills needed for data collection, organizing, processing and retrieving. These specific skills are likely to be addressed implicitly in computer applications in the more traditional subject matter areas. This focus relates to a class of skills for which the computer is an important, versatile aid. The general idea behind emphasizing information-handling skills is that data and information are different concepts.[39]

ICL covers both manual and computerized data collection and processing, and emphasis is placed on differentiating between knowledge and information. Particular elements of Information Science, as incorporated in ICL, are identified as general databases that are used "by virtually everybody" (for example encyclopedias, bus timetables, videotext systems), and the need for the organization of databases so that data are accessible and usable.[40] Although ICL in the Netherlands appears to remain slanted toward computer applications, the course now shows a shift toward general information handling knowledge and skills, with an accent on problem solving in the sense of finding relevant information by using appropriate IT.[41] Thus it appears that the Dutch meaning of information literacy could be moving closer to the meaning common in the United States.

What the future worldwide scenario will be can only be surmised. It would appear that the development and introduction of curricula that promote information literacy will remain topical internationally during the 1990s. Whether educating for information literacy will be undertaken by means of separate courses or programs, or whether it will be accomplished by wider-ranging educational

approaches or reforms, and the extent to which IT becomes the central issue, still remains to be seen.

Patricia Breivik suggests that it is not a new information studies curriculum that is called for, but rather a complete restructuring of the learning process to incorporate resource-based learning. Through this approach, she believes the development of critical thinking skills would become integral to the learning process, thus preparing students for lifelong learning.[42] Lawrence McCrank discusses academic programs for information literacy, and notes that any program that is hosted by the library must use the library as a gateway to other information services and organizations (such as other libraries, archives, museums, galleries, publishing houses, clearing houses, media centers, databases and telecommunications services), since the academic library does not have the monopoly on information resources. He also suggests that the concept of information literacy is so wide that it can only be effectively accommodated by means of a "full-scale, formal program across the curriculum, perhaps in imitation of 'Writing across the Curriculum' developments."[43]

Exploring the Literacy Continuum

The 1990s began with the spotlight on the universal illiteracy problem. The United Nations General Assembly proclaimed 1990 as "International Literacy Year" to mark the start of a ten-year effort to reduce illiteracy. As a result of the focus on illiteracy, the current meaning of literacy was explored: Was the ability to read and write—as manifest in the traditional meaning of literacy—sufficient for functioning in present society?

Researchers in the 1980s had already introduced the notion of information literacy being part of the literacy spectrum.[44] Experts on literacy had earlier established that the dichotomous framework of literate or illiterate was no longer feasible. Any contemporary definition of literacy would need to recognize that the concept implied a continuum which represented different degrees of development at which individuals were functional.[45]

Today, literacy is viewed as an evolving concept, its meaning dependent on the social and individual requirements of a specific society. Since literacy has to be considered in its cultural, social, economic, and political contexts, its definition should take into consideration the expanding information needs of society. An Australian view comes from Beverley Campbell, who gives an indication of what would be regarded as literacy for an adult in an information society:

> Literacy involves the integration of listening, speaking, reading, writing and critical thinking; it incorporates numeracy. It includes the cultural knowledge which enables a speaker, writer or reader to recognize and use language appropriate to different social situations. For an advanced technological society . . . the goal is an active literacy which allows people to use language to enhance their capacity to think create and question, in order to participate effectively in society.[46]

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The focus on literacy/illiteracy at the start of the 1990s dovetailed with the established information literacy movement. Information literacy is now being explored in more depth within the context of the literacy spectrum.[47] It appears that dependence on information in today's society—whether a highly developed information society or a developing community of illiterates or neoliterates—could influence and expand the contemporary meaning of literacy to include information literacy.

Role of Librarians

The literature from the beginning of the 1990s indicates that librarians throughout the world, both in practice and as educators in LIS departments, are intent on firmly establishing a role for their profes-

sion in the information literacy movement. Current literature indicates that librarians plan to keep information literacy in the headlines, and that attention is also being paid to information literacy teaching in public libraries. The partnership that is necessary between librarians and educators is enjoying particular attention.

Keeping Information Literacy at the Forefront. The National Forum on Information Literacy was formed as a result of a recommendation of the ALA report on information literacy that a coalition be formed to coordinate national organizations promoting information literacy.[48] This forum plans to target particular groups that can benefit from information literacy issues, and intends keeping information literacy an active issue among academics: higher education is one such targeted group.[49] The forum also intends promoting information literacy as an integral part of the literacy continuum.[50]

Information literacy was one of the issues focused on at the Second White House Conference on Libraries and Information Services (WHCLIS) in 1991, where national attention was drawn to the contribution made by libraries and information services to a literate, productive and democratic society.[51] One of the recommendations of the second WHCLIS calls for the U.S. government to establish a National Coalition for Information Literacy (including schools, libraries, labor and industry, government, parents and the general public), with the intention of developing a strategic plan for the general development of skills required for information literacy.[52]

Information Literacy and Public Libraries. A suggestion in the ALA report on information literacy was that public libraries are potentially the strongest and most far-reaching community resource for encouraging lifelong learning.[53] Whereas public libraries had not been involved in user education previously (but had been involved in literacy issues), information literacy's place in the literacy continuum provides these libraries with a new challenge. The need to provide user education to clients of public libraries is discussed by several authors, and Helena Zobec suggests cooperation between public libraries and schools in the sense that public libraries provide access to community resources necessary for information literacy.[54,55]

Partnership with Teaching Staff and Policy Makers. Advocates of information literacy believe that, unless librarians create partnerships with teaching staff and policy makers, the LIS profession will not have much success in taking a leading role in information literacy teaching.[56] Breivik, however, warns that by becoming partners with teaching staff, librarians must be careful that they are not doing themselves out of their previous teaching responsibilities, concentrated in user education.[57]

Lawrence McCrank expresses reservations about whether librarians are overreaching their goals in their quest for information literacy, and whether information literacy is perhaps merely souped-up terminology for user education. He is critical of a number of issues relating to librarians and information literacy; for example, he asks whether librarians are recognized by other experts and by the public as having the competence and expertise to provide such bold initiatives as are proposed in information literacy programs. He asks whether librarians have the credentials, training, and postdegree accomplishments to teach information literacy.[58]

However, increasing attention is being paid to the issue of partnership between librarians and teachers.[59] In a paper written at the request of the WHCLIS staff, Breivik notes that teachers, as the pedagogical and subject specialists, require complementary assistance from those whose expertise is in information if the objectives of a course are to be achieved through resource-based learning.[60]

CONCLUSION

This review of the literature has shown how the meaning of the concept *information literacy* has expanded over the last twenty years in order to accommodate the growing requirements for the effective handling of information,

and how the LIS profession has responded to the information literacy movement. The review indicates that information literacy is most likely to remain topical in the field of librarianship during the rest of the decade.

Whether the information literacy movement (as it relates to teaching skills in utilizing information successfully, and the preparing of a learning society through the teaching of lifelong skills) will spread beyond librarianship—notably into the general education field—will depend on how successful librarians are in promoting both the importance of the issues and the significance of their role in accomplishing them. However, although it has become apparent that information literacy is regarded as a combined librarianship and educational issue, at present the literature remains essentially confined within the LIS discipline.

REFERENCES AND NOTES

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