

# Information Literacy and the Distance Learner

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## INTRODUCTION

Coupling the growth of the Internet with the realization that education is critical for both personal advancement and a country's economic development has spawned an explosion of distance learning opportunities. We have no reliable estimates of the number of people worldwide using electronic tools for post-secondary education, but we do know there are major distance learning projects in most of the developed and emerging countries, and in many developing countries. While most distance learning projects originate locally, at a campus, state, province, or country-level, there are also a wide range of alliances that have emerged to make these opportunities available worldwide. Most of these are currently focusing on professional credentials, such as engineering, business, education, and healthcare. Those are, of course, some of the original program areas in the first universities that developed in Europe and the United States.

Many of these new organizations serving distance learners combine traditional universities and business interests. They are hybrid organizations consisting of traditional educational institutions and corporations. While the mix of these associations is shifting even as this paper is being written, we think it is useful to document some of this activity to help establish of scale of the emerging distance learning activities.

One of the first large-scale projects emerged in 2000, when 18 universities from China, Singapore, Australia, New Zealand, the U.K. and continental Europe, the U.S. and Canada formed an alliance called Universitas 21. An initial joint venture with Rupert Murdoch's News Corporation foundered, but Universitas 21 announced a year ago plans to develop online learning materials with Thomson Learning, a division of the well-known Thomson Corporation. According to the report, Thomson Learning will be responsible for course design, testing and assessment, and student-database management. Universitas 21 will award degrees, diplomas, or certificates to students who complete the course requirements. It's expected that Internet delivery will be augmented by satellite television where necessary (Maslen, 2000). Since their founding, they have been actively organizing their members to collaborate on curriculum development in the areas of medicine, science, research, graduate studies, as well as the arts and sciences. Their Web site offers further information ([www.universitas21.com](http://www.universitas21.com)).

Shortly after Universitas 21 was announced, the Global University Alliance was launched. Based in Hong Kong, this organization consists of nine universities from New Zealand, Australia, Taiwan, the Netherlands, the U.K., the U.S., and Canada. They focus on “applied knowledge” with programs at the certificate, bachelor, and post-graduate levels. Their programs include business, information technology, health science, surveying tourism and psychology. John Hinchcliff, Vice-Chancellor of the Auckland University of Technology -- one of the principal initiators of the Alliance – points out that the group’s strengths include strong course content based on their existing programs, cross-accreditation of courses, and sharing of expertise for developing new programs. The first courses of the Global University Alliance were online in fall 2000.

There is also substantial development in Latin America. Internet-based distance learning activities in Mexico represented a market of US\$10 million in 2000. It is expected to grow to US\$64 million by 2003 and they seem to be on track. Some commercial companies are beginning to pay attention to this projected market. For example, AprendeWeb.com now seeks to serve the corporate professional education market (South American Business Information, 2000). In June 2000 an Internet-based business school for those speaking Spanish or Portuguese, e-ducavia, was announced as a joint project of IBM, Telefonica, and Cisco Systems (Reuters, 2000).

In Puerto Rico the Ana G. Mendez University System ([www.suagm.edu](http://www.suagm.edu)) has announced its Vision 2005, which includes a strong emphasis on using information technologies for the development of international programs across the Caribbean, Latin America, and the Hispanic communities of the United States. Indeed, they already export instruction to schools in New York City. The Ana G. Mendez system is also a member of HETS, the Hispanic Educational Telecommunications System ([www.HETS.org](http://www.HETS.org)). Meanwhile, a group in Brazil has announced the formation of UNIAL, which is to be established as an international distance education service for speakers of Portuguese.

In Japan a high-level committee that advises the Education Minister, Tadamori Oshima, has recommended that students in Japan’s national universities should be allowed to earn up to half their undergraduate degrees online, and that courses now offered through correspondence should be available online or through e-mail correspondence. The recommendations, from Japan’s University Council, were part of a list of suggestions for making Japanese universities more internationally competitive (Brender, 2000).

NextEd, a private company, is working with post-secondary educational institutions in Australia, New Zealand, and the Global University Alliance (see above) to broker their programs in China. They do this by assembling libraries of courses from their educational partners and deliver these via local partners. NextEd also offers technical support, training, and Web design services to its local partners.

The African Virtual University serves 26 countries in Sub-Saharan Africa and is headquartered in Nairobi, Kenya. They began as a World Bank project but are moving to self-sufficiency. In doing so they are concentrating their educational offerings around

computer science. Their goal is to add more programs as their constituents gain the capacity to use them.

In the USA, the latest year for which we have reliable national data about the incidence of distance, or distributed, learning is 1998 (National Center for Educational Statistics, 1999). In 1998, 78% of public four-year institutions, and 62% of public two-year institutions were offering some form of electronic distance learning. Ninety-seven percent of all institutions in the U.S. with over 10,000 students were offering some form of electronic distance learning. It is estimated that more than 2.25 million people currently are studying online at U.S. colleges and universities (Eaton, 2001). Adding to this the development of Open Courseware projects coming from universities like the Massachusetts Institute of Technology (MIT) and low-cost Web-based courses from Carnegie Mellon University, the opportunities for people to use the Web for education abound and are likely to continue to grow.

As more and more individuals around the world begin to use electronic tools for teaching and learning, there are a lot of issues that arise. For the purposes of this paper we will ignore many of them. If the reader is interested in exploring quality control, student support, costs, and the like, we refer you to the (WCET) Web site ([www.wcet.info](http://www.wcet.info)). We will examine the critical issue of information literacy.

## **1. DISTANCE LEARNERS' SPECIAL NEED FOR INFORMATION LITERACY**

All learners need to be taught information literacy skills, both for their current academic program and for lifelong learning. These skills are as important for distance learners as they are for students in a traditional campus setting. Distance learners may have a special need for training in information literacy, however, for several reasons. These special circumstances include distance learners' lack of access to an on-campus library, the essential nature of technology-assisted learning, the importance of fostering broad-based information skills, and their need to master the information technology itself.

### **1.1. Access**

The learner in a distance education program is likely to find it irrelevant to be told to "go to the library" for information or resources. Regardless of the learner's proximity to a campus library, if he/she has chosen to take advantage of the anytime, anywhere convenience offered by an online course or program should not have to travel to campus for library services. This means that the learners are dependent on electronic means for retrieving all information.

Fortunately, information resources such as library catalogs, periodical indices, full text periodical articles, and extensive databases are all readily available electronically, thus meeting the research and information needs of distance learners. For example, the learners associated with the Global University Alliance (see above) all have electronic access to the library at the University of Southern Australia. However, the prevalence of electronic information resources alone does not make such resources valuable. The

volume of available material can tax learners' ability to use the resources effectively. Skills in information selection and evaluation are thus perhaps even more critical than in on-campus learning contexts.

## **1.2. The fundamental nature of technology-assisted learning**

The relationship of the learner to the provider institution, the faculty member, and other learners is radically altered in a distant learning environment, especially a distributed learning environment. The nature of pedagogy itself is different than in the traditional classroom. Perhaps the most central difference is that the learner, not the professor, is at the center of the process.

The instructor is no longer the point of control in disseminating information or knowledge. Rather, the student is seen as an active, self-directed learner who is part of a learning community. The instructor is a coach rather than a disseminator of knowledge. Students in this context are likely to be asked to deal with open-ended problems that demand independent research and thinking. Succeeding in technology-assisted courses requires students to develop new competencies in handling information resources and in using information technology. Formal training in information literacy is important in helping build the independence of distance learners.

## **1.3. A focus on a broad range of electronic information resources**

The approaches to providing instruction on information literacy for distance learners may be different from models for teaching on-campus students. Libraries have traditionally taught bibliographic skills, but the focus of instruction for distance learners must shift from the resources of an individual library to more general sources of information, including electronic periodical indexes, full-text databases, audio databases, and mixed databases that may include a combination of the other database types, as well as the Web. Although the same general skills are needed in both on- and off-campus contexts (defining the topic, determining information requirements, locating, accessing, and evaluating the information), a learner in an electronic environment needs broad access to networked information sources and a clear understanding of how to find, select, evaluate, and use them.

## **1.4. Importance of fluency in information technology**

The notion of "information literacy" for distance learners must also extend to ensuring their comfort in using technology itself. It is natural to assume that a student who enrolls in an online course is already comfortable with computers and electronic communications tools and that he/she can navigate the provider institution's system for establishing a network account. However, this is not always true.

Distance learners must be skilled in using technologies such as e-mail, the Web, relevant course systems, and, perhaps, asynchronous computer conferencing. Although the provider institution is responsible for providing technical support for both new and

continuing students in online courses, it is also important to be sure that students themselves have sufficient skills to undertake online learning. The institution must determine the level of distance learners' fluency in information technology and then provide, or indicate access to, the tools and support to help them build the level of fluency they need to succeed in their online program. Fluency in using information technology is an important aspect of information literacy for distance learners.

## **2. THE ROLE OF THE ACADEMIC LIBRARY IN SERVING DISTANCE LEARNERS**

In recent years, there has been a growing understanding that academic libraries have a special responsibility to respond to the unique and changing needs of distance learners in terms of library services in general. Recognizing this, the Association of College and Research Libraries (ACRL) recently revised its "Guidelines for Extended Academic Library Services." The revised Guidelines point clearly to the responsibility of institutions and academic libraries to distance learners:

Library resources and services in institutions of higher education must meet the needs of all their faculty, students, and academic support staff, wherever these individuals are located, whether on a main campus, off campus, in distance education or extended campus programs, or in the absence of a campus at all; in courses taken for credit or non-credit; in continuing education programs; in courses attended in person or by means of electronic transmission; or any other means of distance education. (Association of College and Research Libraries, 1997, ¶ 1)

The second basic precept of the Guidelines is as follows: "The instilling of life-long learning skills through information literacy instruction in academic libraries is a primary outcome of higher education. Such preparation is of equal necessity for the extended academic community as it is for those on the traditional campus" (Association of College and Research Libraries, 1997, Philosophy, ¶ 3).

### **2.1. A "Provider Institution" Responsibility**

The institution in which a student is enrolled at a distance (sometimes called the "provider institution") is responsible not only for developing library services designed specifically for the distance or online learner but also, and equally important, for ensuring that distance learners have access to broad sources of electronic information and have the skills to use them. The provider institution must create the opportunity for off-campus learners to achieve information literacy.

Although the "Guidelines for Extended Academic Library Services" emphasize the equal needs of on- and off-campus learners, we believe that it is actually *more* important to provide instruction in information literacy to distance learners than to those on campus.

It is also crucial to ensure that the instruction is made available in a Web-based environment so that learners may access it any time, any place.

Information literacy instruction may be provided in a Web-based environment in any of several forms, including:

- A stand-alone Web tutorial,
- A Web-based, for-credit information literacy course, or
- Information literacy instruction that is integrated into the course content of an online academic course.

In some instances, the responsibility for creating information literacy instruction rests solely with an institution's or consortium's library staff. In others, information literacy for distance learners is seen as a central mission of the institution. In these institutions, information literacy instruction is likely to be integrated into the curriculum as part of one or more regular online academic courses. Information literacy may also be made a requirement for distance learners to complete as part of an orientation to online learning.

### **3. SOME RECOMENDATIONS**

Institutions interested in designing an information literacy program to meet the special needs of distance learners should consider the following recommendations:

1. Include information literacy as one element of an online self-test developed by the provider institution to inform potential online learners of essential skills and personal qualities needed for success in an online learning program.
2. Require first-time online learners to take a pre-test designed to assess their information literacy prior to their enrollment in any online course.
3. Use technology, especially the Web, to provide an online tutorial or regular credit or non-credit course on information literacy. The online tutorial or course should cover all aspects of information literacy likely to be useful to any online learner.
4. Require all online learners to demonstrate information literacy and technology fluency in using the institution's tools.
5. Require this proficiency demonstration as an aspect of the first online course in which they are enrolled or prior to admitting them to any online course or program.

In addition to developing an information literacy program for distance learners, providers should ensure that distance learners have access to help in mastering skills needed to use instructional technology effectively.

#### 4. SOME EXAMPLES

The increased reliance on technology in higher education has resulted in Internet technologies being commonly used to serve students both on and off campus. Today's technology-infused learning environment blurs the distinction between on-campus and distance learners, as both types of learners are increasingly taking advantage of online learning opportunities. Therefore, many of the following examples of effective Web-based information literacy programs can apply to both on-campus and distance learners.

We assume that an institution has a special responsibility to design Web-based information literacy tutorials or courses for students for whom a trip to campus is not feasible. This means that instruction must not rely on in-person interactions between either library staff or faculty and the learner nor can it depend on print documents or be limited to traditional bibliographic instruction. To meet the needs of learners who have chosen online learning opportunities, institutions must develop Web-based approaches to developing information literacy and these models must emphasize access to electronic resources. In designing an institution's or system's information literacy program, it is also crucial to determine the essential elements to be mastered in the context of the overarching mission of the institution.

The following examples are not presented here because they are necessarily the best information literacy programs to meet distance learners' needs. However, all were selected on the basis of important criteria, including their:

- Conceptual frameworks,
- Commitment to incorporating information literacy into the curriculum as a whole,
- Use of the Web to provide instruction in information literacy,
- Understanding of the ways technology is changing the way teachers teach and learners learn, and
- Their commitment to promoting fluency in locating, accessing, evaluating, using and citing needed information and electronic research tools.

**Ohio State University. *Net.TUTOR*.**

<http://gateway.lib.ohio-state.edu/tutor/content.html>

Net.TUTOR was developed in 1996-97, with the support of an Academic Enrichment from the university. Its general goals are to:

1. Use a conceptual, as opposed to a procedural, framework for instruction, relating Internet research concepts to general information-seeking behavior in other situations.
2. Employ active learning principles, providing practice opportunities and constructive feedback whenever appropriate.
3. Allow self-assessment, flexible selection of tasks, and channels for user comments.
4. Use Web technology appropriately and effectively.

**State University of New York. *SUNYConnect*.**  
<http://www.sunyconnect.suny.edu/ili/ilicourse.htm>

*SUNY Connect* is a Web-based information literacy course available to all State University of New York campuses and may be modified for use in their own information literacy teaching program. The course was developed as a result of an RFP developed in part by a statewide Information Literacy Initiative Committee that was also charged to:

1. Identify desired information literacy competencies across the curriculum;
2. Develop a process to implement a SUNY-wide information literacy initiative in SUNY institutions;
3. Promote the adoption of the desired information literacy competencies across the curricula;
4. Develop an advocacy program that publicizes to SUNY faculty the principles of information literacy, especially in relation to accreditation. The intended audience is librarians, the University Faculty Senate, Academic Vice Presidents, the SUNY Council of Presidents, and other appropriate groups;
5. Share information about successful and model programs among SUNY campuses via the Web and listservs.

**University of Washington. *Uwired*.**  
<http://www.washington.edu/uwired/projects/index.shtml>

This broad initiative is not limited to a focus on information literacy, but is focused on information technology fluency and is designed to meet the following goals:

- Provide access to the tools and resources that students and teachers need to use technology to enhance teaching and learning;
- Promote fluency with information and information technology; and
- Foster innovation in technology-enabled teaching and learning.

*Uwired* works to promote fluency in information technology and information resources (i.e., information literacy) by supporting a range of curricular activities, including for-credit courses such as *Information Literacy as a Liberal Art*, taught by

University of Washington librarians, which provided an introduction to information resources in an electronic environment.

**University of Texas System. *Texas Information Literacy Tutorial, TILT***  
<http://tilt.lib.utsystem.edu/>

TILT is an educational Web site designed to introduce first-year students to research sources and skills. The tutorial offers an introduction and three modules (Selecting, Searching, and Evaluating), which the student can complete in any order.

*TILT* uses lively graphics and starts at an elementary level that puts to rest some common misconceptions about the Internet. Students may then select Internet-related issues of special interest to them, including censorship and free speech, global communities, and Internet business to generate examples relevant to those interests.

**California Polytechnic State University, San Luis Obispo**  
<http://www.lib.calpoly.edu/infocomp/modules/>

In April, 1995, the California State University (CSU) system designated an Information Competence Work Group charged with developing an information competence program for the entire CSU system. A variety of projects and reports resulted. One of the earliest, and still exemplary, campus projects was undertaken by California Polytechnic State University, San Luis Obispo. The nine online tutorial modules provide guidance and exercises on the following topics:

- Define the Research Topic
- Determine the Information Requirements for the Research Question
- Locate and Retrieve Relevant Information
- Use the Technological Tools for Accessing Information
- Evaluate Information
- Organize and Synthesize Information
- Communicate Using a Variety of Information Technologies
- Understand the Ethical, Legal, and Socio-Political Issues...
- Use, Evaluate, and Treat Critically Information Received From the Mass Media.

Although the information literacy tutorial is not designed specifically for online learners, it covers in a graphically clear and straightforward manner the categories of information these learners would need.

## **5. DISTANCE EDUCATION INSTITUTIONS AND INFORMATION LITERACY**

In the case of the many “virtual” and distance education universities now in existence everywhere in this country and, increasingly, around the world, the total student

population is comprised of distant learners. In the rush to create online learning opportunities, these new institutions must be careful not to ignore the importance of empowering these independent learners by providing a wide array of gateways to information and the information literacy training to use them effectively.

Recognizing the importance of information literacy in the distance learning context, some institutions that provide education programs exclusively at a distance have been active in encouraging information literacy among their learners. For example, Athabasca University, Canada's leading distance education university, and the Fielding Institute in Monterey, California, which serves graduate students around the world through a competency-based, integrative and learner-centered model, have developed two different approaches to encouraging information literacy among their students.

Athabasca's library has developed an extensive online Help Centre, which provides substantial resources to help its students in searching online databases, evaluating materials found on the Internet, and conducting research from a distance. The Fielding Institute has developed a required Information Literacy Program to ensure that its internationally based students become information literate.

## **6. CONCLUSION**

New roles, services, and partnerships are needed to ensure that the online learning environment works well for individual distance learners. Librarians must work closely with academic staff to provide support for networked learning approaches and for developing independent learners. The timing of information literacy provision to distance learners is important, as they must have adequate skills to enable them to pursue their academic goals via technology and to meet the information or research requirements of specific courses. It makes sense, therefore, for institutions serving distance learners to require information literacy instruction either early in an online student's career or even before he/she begins it.

This need for online approaches to information literacy also has an important implication for schools that train librarians, of course. They must take the lead in educating librarians who are technically prepared, sensitive to the needs of distance learners, and able to fulfill, either independently or in cooperation with faculty and information technology staff, a teaching role in a program of effective Web-based information literacy instruction.

Institutional administrators in both traditional and virtual universities must also be committed to integrating information literacy into the curriculum, ensuring that it is part of the overall educational experience of distance learners.

In the international context, the teaching of information literacy skills for distance learners is crucial. Many students, especially in developing countries, have come from environments where library services were poor and, as a result, are not skilled in using

library resources. They may also live in areas in which Internet connectivity has been made possible only recently. As online learning opportunities and “virtual institutions” continue to emerge around the world, policymakers and institutional leaders must be sure to incorporate programs to empower their students to identify the nature of their information needs, locate the needed information, and use it appropriately. These information literacy skills are important to students everywhere, not only in the context of a structured academic program delivered at a distance but also as a way of facilitating lifelong learning.

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Available at:

<<http://www.nclis.gov/libinter/infolitconf&meet/papers/johnstone-fullpaper.pdf>>

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## Additional Resources

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### **Web Sites**

Instructional Technology Council's list of resources  
<http://www.itcnetwork.org/reports.htm>

LEEP Distance Education Program, University of Illinois at Urbana-Champaign  
<http://alexia.lis.uiuc.edu/gslis/degrees/leep.html>

TILT (Texas Information Literacy Tutorial), University of Texas System  
<http://tilt.lib.utsystem.edu>

WCET's Learning Anytime Any Place project on Web-based student services  
<http://www.wiche.edu/wcet/projects/laap>

University of Maine System  
<http://www.learn.maine.edu/ocls/faculty.html>