Online Literacy for Distance Learning: The Education of Hypermedia Readers

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Introduction

"Online literacy for distance learning" refers to what students can learn for use in educational and other activities reflecting what is available in the new information and communications technologies (ICT). When they enroll in an online course students encounter fresh cognitive tasks and opportunities for learning. And what knowledge they gain from any course's design, or expectations for digital learning, is part of what they come to know of the new ICT and of how they imagine their own educational futures as lifelong learners in teaching and other careers.

The Association of College and Research Libraries (ACRL) refers to a "set of abilities" as necessary for "information literacy," called "digital literacy" or "silicon literacy" by others (Glister, 1997; Snyder, 2002). According to the ACRL, the new form of literacy will be based on attention to the sources and organization of online information, and skills in probing, evaluating, and using it. This form of "literacy" is addressed below in a discussion of the ability search online. We adopt the ACRL's designation of necessary "abilities" to suggest how, beginning with reading hypermedia, distance learning can represent an image of education consistent with the demands and prospects of the new ICT.

Questions of the impact and uses of the new ICT, including debates about them, are generally in the background of online course design. This paper is based on the premise that such matters should be brought forward in distance education, much the way that writing was made a central feature of teaching and learning across the curriculum. Thus, "online literacy" broadly considered is the latest sign of the importance of academic communications—in work by students and faculty--in higher education.

Education in Hypermedia

Before anything else, online literacy means the ability to read hypertext. Hypertext (sometimes now referred to as hypermedia) is a format for writing and displaying electronic texts enabling links to related online resources—text, audio, video, organizational and institutional websites, multi-media exhibits, and more. World Wide Web-based configurations of such resources and their uses constitute a central educational and cultural phenomenon of our time (Landow, 2006). The link is the primary feature of hypermedia and is central to the organizing principles of the Web. Links allow (or encourage) users to travel from one document or information site to related documents and sites with the click of a mouse. In effect, hypermedia is a non-sequential method for reading and using a document on a computer screen. Instead of reading it from beginning to end, a student can move to related topics by selecting a linked word or phrase. The combination of links (and the links available at links) generated by hypermedia is itself often called a "web." The idea behind hypertext and hypermedia is that resources are available in much the way that humans think--by association rather than in a strictly linear and fixed sequence. The web designed for a course operates as an anchored yet mobile network of learning opportunities.

Hypertext and hypermedia will play increasingly important roles in online higher education, while they also gain ground in K-12 teaching and learning (McNabb, 2005). Education in hypermedia can refer to three activities. There is first hypermedia represented in the course content (e.g, hyperlinked presentations by the instructor, including resources themselves containing links). There is then the opportunity for communications among students using hyperlinks. The teaching of writing in higher education is coming to include such an approach to composition. And informal communications via e-mail often include links. The assignment of hypertext (or hypermedia) essays is still unusual but they are likely to become a routine part of educational discourse, as hypertext links are becoming part of scholarly communications. There is a third meaning to the phrase "education in hypermedia." That is, any online course is, ideally, also an occasion for education about the medium of hypertext (or hypermedia) itself, and its origins, uses, and meanings for learning. Thus, courses addressing such questions, complementing the subject matter, add to any students understanding of the communicative essentials of distance learning.

From Online Literacy to Online Abilities

The *ability to read hypermedia* represents one among a program of "online abilities" necessary for success in distance learning. They are the focus of a research project underway in the graduate program in higher, adult, and lifelong education at Michigan State University. This approach works around the limits of the term "literacy" (and its overuse in other domains) to address how faculty and students can understand expectations and possibilities in the new information and communications technologies as they are applied to distance learning. The other online abilities are:

● *The ability to search for, evaluate, and use online information and other electronic resources*. Internet search is ubiquitous, demanding, and complex. Thus, as the ACRL states, "information literacy" includes "search strategy in different information retrieval systems" and "examin[ing] and compar[ing] information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias." In gaining digital experience for education, students also practice "information literacy" by utilizing online resources devoted to learning how to search and carry out related functions, like the University of California at Berkeley's excellent "Finding Information on the Internet" (Barker, 2006). But finding information is only one step in this category of online abilities. Thus, in an informational, institutional, or organizational website we encounter principles of design meant to contribute to our learning and knowledge. Accordingly, evaluating the results of searching means considering what is contributed by "information architecture" to the organization of a Web resource and to its educational uses. And even as we understand more about searching and evaluating what we find, it is increasingly difficult to keep pace with the expansion of digital resources. The problems are particular and general. Thus, how do we know that any website and the online information it presents is the best available? The larger question represented by the endless opportunity for search is "How much?" and particularly so in a time of extravagant accounts of what will soon be available to us on the Web (Kelley, 2006). The problem for some observers of the rapid growth of the Internet, and conditions of "ambient findability" (Morville 2005), is simply "attention." What will it take, we may add to the problem of searching, to be able to learn effectively in an "attention economy" in which the ceaseless expansion of resources challenges our cognitive powers (Lanham, 2005).

● *The ability to communicate in formats made available by the new ICT*. Of course not all formats for digital communication are new. Thus, a student writing a paper and submitting it electronically to the instructor is making only rudimentary use of the new ICT. As noted above, student writing for distance learning is likely to include more and more hypertext (or hypermedia). Thus, a student paper employing hypertext (or hypermedia) demonstrates recognition of how communications via different media can contribute something otherwise unavailable in a traditional text. Of course, for many online instructors and students it is the newest forms of communication that matter the most. Thus, online and hybrid

courses typically utilize student-to-student formats like the chat room, a virtual space configured for synchronous or asynchronous discussion of assignments and other matters. “Chat” is a term that may conceal the formal dimensions of such activity and the preference of many online instructors for evaluating student performance in the chat room (or any similar device) as part of a course grading system. Effective communications in this domain requires the ability to follow an online discussion and to enter and contribute to it in a constructive way, that is by advancing an idea, or responding usefully and intelligently to other posters, or joining in an effort to integrate the results. Writing is still the primary medium of communication but while there is widespread recognition of the influence of word-processing on composition at all levels of education, the development of new interactive formats (including “blogs”and “wikis” in addition to hypertext) will require the ability to organize information and present ideas electronically, including recognition of the place of academic style and “etiquette” side by side with what the new ICT affords in speed and informality (Brown and Duguid, 2000).

● *The ability to understand and explain the history, meanings, and impact of the new information and communications technologies*. Every online course represents the transformation--current and potential--of teaching and learning by the new ICT, particularly the operations of the Internet and what we can learn from the seemingly limitless resources on the Web. But while distance education can appear to students to represent only what is new (and “digital”) about teaching and learning it can also be said to convey much that is traditional about how we learn with textual and other resources, even some in the new media technologies. Thus, there are important historical continuities as well as disruption and transformation in the influence of technology on learning. What is needed, as classicist and cyberspace devotee James O’Donnell (1998) says, is “authorizing the present out of the past” or seeing beyond novelty to the perennial questions behind innovation. And there has been since the advent of the Internet a lively debate about its uses and impact. While technology has been embraced with enthusiasm by colleges of education, work by influential scholars and social critics offers reasons for making us wary if still keen learners in the “Age of the Internet” (e.g., Dreyfus, 2001; Gitlin, 2002). A useful location for such resistance is the website www.edtechnot.com. Teachers in particular should be able spokespeople for the debate about technology and its meanings for literacies old and new, demonstrating for students how any innovation carries both benefits and costs (Levy, 2002).

● *The ability to incorporate the other abilities in activities and plans for professional and personal development*. Any professional’s experience with online abilities merely begins in formal schooling. New teachers and others in knowledge-based careers will be lifelong learners in electronic formats. And teachers with many years in the classroom must adapt to the opportunities—for themselves and their students—for online learning. Even so, the question of what teachers and other professionals should be expected to know about technology and its meanings for literacy is still an open and perplexing one. It should be seen as part of emerging forms of online professional development (Dede, 2006). Online study at all levels continues to expand (Allen and Seaman, 2007). Of course, not all online professional development will take place in degree programs. In fact, over the course of a career most online professional development will be non-formal and much of it will be individual as the multiplication of websites with resources for independent study demonstrates (e.g., the George Lucas Educational Foundation’s *Edutopia* [see edutopia.org]). Altogether, opportunities presented by lifelong learning with online abilities constitute a contribution to the evolution of “working identity” for teachers and others, and a timely “mindset” for a satisfying career (Ibarra, 2003; Dweck, 2006).

Conclusion: Teaching and Learning Among Hypermedia

The “online abilities” represent what we believe is essential to successful distance learning. That means that teachers and students alike will recognize that their joint activities depend on understanding and using hypermedia. According to an authoritative account of the role of the new ICT in education, the work of teaching via hypermedia becomes a process of "representing a set of relationships between

information partly to communicate a given set of connections, and partly to facilitate students' learning to make new connections on their own" (Burbules & Callister, 2000). The process places fresh demands on faculty members--as course designers--and online students alike (Weiland, 2006).

But becoming adept hypermedia readers will not by itself mean the realization of all the advantages of electronic distance learning. Thus, additional abilities, as outlined here, complement hypermedia reading in order to capitalize to the greatest extent possible on the new information and communications technologies. These must include awareness of how the new literacy is situated in traditional practices, or the durability of the old in the new in the many formats now available for reading, writing, and communications. We teach and learn *with* hypertext and hypermedia and *among* them, or as practitioners and observers of how they are changing and challenging us to discover what are the most effective uses of technology for education.

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Biographical Sketches

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