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Distance students and online research: Promoting information literacy through media literacy

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ABSTRACT

Today's college students, particularly distance students, are increasingly dependent on the Web for their research needs. At the same time they lack the critical thinking skills required to successfully evaluate the actual credibility of online information, a critical aspect of information literacy. Furthermore, rather than access the online library database, distance students are more likely to employ generic search engines in their research quests, making more critical the need for information literacy. The current study employed an online survey designed to explore the relationships between critical evaluation of online information, as a measure of information literacy, and components of media literacy. Results suggest a significant, positive relationship between these literacies. These findings suggest variety in the types of strategies instructors and instructional designers might employ towards the development of information literacy skills required for today's graduates to successfully negotiate the 21st century information society.

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1. Introduction

The Internet and Web 2.0 are changing the face of a university education in the 21st century. Every day thousands of college students sit down at their computers, open their preferred Internet browser, log in and attend class. Whether enrolled in exclusively online programs, blended classes, or both online and on-campus courses, more students than ever are learning in an online environment. This is an environment where today's students seem to be comfortable, even choosing to spend much of their "free" time. Social networking, emailing, online shopping, listening to music, watching You Tube and surfing or browsing, the net are some of the more popular online activities for today's college students Jones, 2002.

While in generations past, a class research assignment required a visit to the library, today's students can, and do, conduct much of the necessary research online, from the comfort of their own home in an environment in which they are at ease and familiar. Whether choosing to access the university library's online database, or more likely, "Googling" key words to conduct an online search via the Web (Jones, Johnson-Yale, Millermaier, & Pérez, 2008), research findings support the suggestion that today's college students are increasingly dependent on the Web for their research needs (Helms-Park, Radia, & Stapleton, 2007; Kimsey & Cameron, 2005). With 73% of college students indicating they use the Internet more than the on-campus library (Jones, 2002), research finds this population lacking the critical thinking skills necessary to evaluate the relevance, currency, reliability, completeness and accuracy of information accessed (Kimsey & Cameron, 2005; O'Hanlon, 2002; Neely, 2002; Wang & Artero, 2005). In other words, today's students do not possess the information literacy skills necessary for success in the 21st century.

For students attending the university "virtually" without access to the physical library, the Internet becomes the primary research information source, making more vital the possession of information literacy skills for distance students. Reliance on a particular source of information predicts greater perceived credibility of the information available through the source (Hong, 2006; Johnson & Kaye, 2000). Yet perception of credibility does not imply evaluation of actual credibility, but in fact the opposite, an acceptance of the information available through the source as credible, therefore eliminating a perceived need to evaluate the information. The magnitude of information, in text, audio, images and graphics, available online, combined with a lack of oversight and regulation, and these low information literacy skills, creates an environment that could be likened to shark infested worldwide waters for distance college students. Universities are obliged to prepare their students to navigate these waters successfully, to graduate individuals who are information literate, in order to best prepare them to be successful and productive employees and citizens in the future (ALA, 2000; Maughan, 2006).

The purpose of the current study is to investigate factors that increase the likelihood of students evaluating the relevance, currency, reliability, completeness and accuracy of online information. In other words, how can educators best promote the development and practice of information literacy for distance students?

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1.1. Information literacy

According to the American Library Association (ALA), "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" (ALA, 1989). Information literacy is not a new concept, related specifically to online information. Rather it has deep roots in library science (Rockman, 2004; Roth, 1999), where librarians have long been concerned with teaching library instruction (Jacobson & Mark, 2000; Wang & Artero, 2005). With these roots, information literacy training programs traditionally focus on teaching the skills required to utilize library resources, (Kimsey & Cameron, 2005; Neely, 2002; Secker, Bden, & Price, 2007) and other scholarly databases, including those online. Skills encompassed in these training programs include; teaching students to use the online catalog and electronic databases, differentiating between library databases, accessing the library system using a Telnet connection, interpreting bibliographic records and citations, and choosing an appropriate database for a topic (Jacobson & Mark, 2000). Scholars suggest however, that with the explosion of information available and the magnitude of the issues, information literacy is no longer solely a library issue (Rockman, 2004; Roth, 1999). Further, information literacy should more broadly encompass the ability to critically analyze and skeptically reflect on media text (Brown, 2006; Feuerstein, 1999; Hobbs & Frost, 2003).

In addition, research suggests that fully online students are less likely than campus students to use online library resources (Dempsey, Fisher, Wright & Anderton, 2008), suggesting greater dependence on generic search engines and the vast, uncontrolled Web, for completion of research assignments. Therefore, understanding how to best promote information literacy requires an understanding of online information seeking in general.

1.2. Information seeking

Online information seekers indicate as their priority the ability to access information in the quickest, easiest, and most convenient way (Crespo, 2004; Napoli, 2001; Wathen & Burkell, 2002; Rice, 2001). Case (2002) suggests that individuals' rating of easy accessibility as more important than quality of information can be explained by the "Principle of Least Effort." According to Case, many people rely on information resources, including mass media, rather than formal sources such as a university library, as a means of increasing the efficiency of their efforts (greater quantity accessed more quickly). This is supported by research findings showing that online information seekers often begin a search with a generic search engine such as Google or Yahoo and are likely to view only the links on the first page or two of results (Jones et al., 2008; Rice, 2001). Rice, McCreadie, and Change (2001) suggest that, consistent with satisficing theory, people lean toward a course of action that is good enough, or "satisfactory." In other words, the theory suggests that individuals are most likely to find information from the easiest, most convenient source, compromising quality for efficiency and it seems likely that the quality of information accessed is largely determined by the quality of the information search.

A university library database is prefiltered by expert librarians selecting valid and reliable sources of peer reviewed information. Online information has no filter beyond that which the information seeker employs. Several characteristics of the Web, while promoting open information exchange, also exacerbate concerns regarding the credibility of information found online. These characteristics include; lack of peer review and regulation, low cost of publishing, anonymity of authorship, and the fast pace at which information is added and changed (Cline & Haynes, 2001; Mittman & Cain, 2001). All of these contribute to substantial quantities of unreliable, biased, incomplete, misleading and inaccurate online information (Cline & Haynes, 2001; Gagliardi & Jadad, 2002; Rice, 2001; Mittman & Cain, 2001; Napoli, 2001). Hence, the critical need for information literacy.

1.3. Information credibility assessments

Once information is located, individuals assess perceived credibility of what they have found and do indicate they are reticent to use information they do not find credible (Fogg, 2003; Tseng & Fogg, 1999). There is a difference, however, between perceived and actual credibility. Perceived credibility of information is a subjective concept based on an individual's interpretation of various source, media and information elements, and differs from the actual credibility of the information (Crespo, 2004; Fogg & Tseng, 1999; Warnick, 2004). Research conducted in experimental settings predicts that actual credibility perceptions are affected by source expertise and knowledge of topic (Eastin, 2001; Hong, 2006). In the real world, however, individuals are seeking information when they perceive a gap between what they know and what they need to know (Wilson, 1997, 1999). The consequence being that verifying information quality critically, in real world settings, is likely hindered by lack of knowledge related to the specific topic of the information search (Freeman & Spyridakis, 2003). One would expect this would be the case when students are researching information for a course on a topic about which they are in the process of learning and not already knowledgeable.

Once on a Web site, in place of more stringent evaluative criteria, users are likely to employ heuristics, based largely on Web design, to weed out those sites they do not intend to make further use of (Crespo, 2004; Fogg, 2003; Huntington et al., 2004; Sillence, Briggs, Harris, & Fishwick, 2007; Wathen & Burkell, 2002; Warnick, 2004). Users indicate they often assess the perceived credibility of information on a Web site based on surface factors, wholly unrelated to content, like organization of information, ease of navigation and professionalism of site design (Crespo, 2004; Fogg, 2003; Freeman & Spyridakis, 2003). The findings that respondents generally report being satisfied with the information found online (Cline & Haynes, 2001) do not indicate actual credibility, but more likely relevance, usability and consistency with what the user already knows (Freeman & Spyridakis, 2003; Wathen & Burkell, 2002). Information literacy, however, requires the application of more stringent critical thinking skills in evaluating the actual credibility of online information.

1.4. Predictors of critical information evaluation

As noted previously in this article, such critical evaluative criteria, in terms of information literacy, would include verification of the relevance, currency, reliability, completeness and accuracy of the information as well as identification of the author and author's credentials (Kimsey & Cameron, 2005; Neely, 2002; Wang & Artero, 2005) consistent with the definition of information literacy. Understanding information seekers who employ such criteria can help to illuminate the factors most likely to predict and promote information literacy.

In studies related to online information seeking, Crespo (2004) found that 37% of his subjects rejected information due to lack of an identifiable source and 47% because the Web site was too commercial. This is consistent with a Flanagin and Metzger (2007) finding that, in an online context, credibility assessments are lower when explicit persuasive intent is evident. Research findings suggest that verification of information, such as that noted in these studies, is positively associated with skepticism in that skeptical users are more likely to verify online information (Flanagin & Metzger, 2007). Huntington et al. (2004) found that individuals indicating less believability of online health information visit more sites during an information search, comparing information found between the sites visited, than do those indicating greater trust in online health information. Further, findings of contradictions between sources increased skepticism toward the information among study subjects. It would seem then, that teaching one to be skeptical of information sources might increase information literacy. Cultivating skepticism toward media messages, including online information, is at the heart of many media literacy programs.

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