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INVITED COLUMN [PERSPECTIVES]

WHY INFORMATION LITERACY IS INVISIBLE

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ABSTRACT

Despite the many information literacy programs on higher education campuses, the literature of information literacy and the concept of information literacy as a viable academic subject remain hidden to most professors and academic administrators. Information literacy is invisible to academia because it is misunderstood, academic administrators have not put it on their institutions' agendas, the literature of information literacy remains in the library silo, there is a false belief that information literacy is acquired only by experience, there is a false assumption that technological ability is the same as information literacy, faculty culture makes information literacy less significant than other educational pursuits, faculty have a limited perception of the ability of librarians. and accrediting bodies have not yet advanced information literacy to a viable position in higher education. The new information age demands that these barriers be overcome and information literacy take a prominent place within the academic experience.

INTRODUCTION

While "information literacy" may be a buzz word in parts of some university campuses, it certainly has not been given a high priority generally in academia. The Primary Research Group (2008) surveyed over 100 colleges and universities in Canada and the United States on the degree to which they had implemented information literacy. The study's findings support the common perception that the vast percentage of information literacy instruction is done through single sessions, generally lasting an hour or less. Fewer than 6% of respondents had a one- or two-credit full course in information literacy required for graduation in their institutions, and fewer than 4% had such a course at the 3-credit level. About 25% had an information literacy component built into basic writing and composition classes.

When it came to any form of information literacy instruction required for graduation, the results were still less than 30% of all institutions surveyed. Only about 21% of respondents gave an information/computer literacy test that was required for graduation. Over half of respondents had no information literacy graduation requirement of any kind. Most respondents foresaw little progress in making information literacy a priority in the coming 3 years.

So why, with the massive spread of new knowledge technologies making information literacy an even more imperative skill, do most universities still relegate it to the level of brief remedial treatment? Why do accrediting bodies for the most part give it only lip service, if they mention it at all? This paper will address the reasons for this lack of serious consideration of information literacy in higher education today.

THE UNDERSTANDING GAP

To describe the emphasis of information literacy within the majority of universities, we would have to use the term "short-term remedial." Hosts of academic librarians perform one-shot library orientation sessions that are either generic or subject-specific, the latter often related to upcoming assignments. Librarians explain to students what they should know how to do, and sometimes those students get a chance to practice their basic skills. Any notion of sophisticated education is precluded, much as it would be if one were assuming that a teenager was competent to drive a car after 40 minutes of explanation and 15 minutes of practice.

In information literacy, though we are dealing with a complex and challenging set of understandings and skills that require much instruction and practice to develop to the point of sophistication, the response of academia to this point has been to make it a remedial issue. That approach indicates a misunderstanding of the nature of the challenge and, indeed, of the nature of information literacy itself.

Even librarians, who regularly see the great gap in information literacy exhibited by most university students have been slow to acknowledge the full orb of information literacy. They have been so used to teaching people how to use libraries (thus calling information literacy "library instruction") that they have failed to grasp that library instruction *per se* is not the point.

Information literacy is about *understanding information and how it works*. It is about introducing students to the forms of information available to them, and then helping them determine what sort of

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information they need for any specific context, how to find it, how to evaluate it, and how to use it effectively and ethically. To equate this with teaching students how to use a library is as short-sighted as assuming that driving a car simply requires that a person know how to step on the gas pedal.

To illustrate, imagine that a student wants to do research on the effect of the economic crisis of 2008+ on federal government regulation of American banking. A library instruction approach would be to point the student to the library catalog (perhaps with some suggestions for subject headings), to the journal databases, and perhaps to government documents. The student, bewildered by the alien world of information in general, would then muddle through "research," never really understanding what she or he was dealing with.

An information literacy approach would begin by guiding the student to formulate the research goal clearly. For example, the student might create a question such as this: "To what extent was the US government negligent in not preventing the economic crisis of 2008 and following?" Armed with a clear goal, the information literacy instructor would then help the student assess the various information sources that might provide good material.

Books for this topic would have limited usefulness, due to the short lag time between events and studied commentary on them. Journals would be a good choice, but what kinds of journals in what subject areas? The student would need guidance in the best ways to adapt journal database searches to whatever problem is being addressed (rather than just learning the various search features). Further, in this example the Google-searchable Internet is liable to be full of contradictory, unsubstantiated opinion on this topic; but US government websites and Google searches for updated banking regulations might be more reliable. Students here would need to understand the essential differences between such sites and journal articles. An information literacy approach indeed might not even in every case take the student to a library as such.

To assume that librarians can meet all information literacy needs with a library tour or an hour of instruction is to misunderstand utterly what those needs are. Information literacy is not a remedial topic but a whole way of thinking about information and its use. To miss this point is to relegate information literacy instruction to a back burner. Students themselves tend to believe that there is little to be learned in order to become information literate. As Head and Eisenberg (2009b) put it:

> Students conceptualize research, especially tasks associated with seeking information, as a competency learned by rote, rather than as an opportunity to learn, develop, or expand upon an information-gathering strategy which leverages the wide range of resources available to them in the digital age. (p. 1)

Thus, the challenge of providing information literacy to students is a complex one, demanding knowledge of information typology, problem identification, and research methods, as well as information acquisition, evaluation, and effective application. The historical connection between bibliographic instruction (library instruction) and information literacy has unfortunately led to the situation in which those who teach information literacy are

predominantly given only 1 or 2 hours with students to accomplish their instructional goals, as if introduction to the library were sufficient.

This notion creates a damaging circular argument—if information literacy is primarily taught through one-shot sessions, then it must be remedial and easily accomplished within the time allotted, otherwise more time would be devoted to it. But, because universities devote so little time to it, the assumption of faculty is that the one-shot is sufficient and that little more can be done to improve student abilities through specific instruction. Faculty hear "information literacy" and assume obtaining it requires only a short orientation period that teaches students how to use a library and search databases (Webber & Johnson, 2006; Andretta et al., 2008). The result is just what faculty currently believe—students normally do just muddle through their research and perform with minimal skill. Nothing more should be anticipated, though some improvement will surely come (one hopes) with more experience.

The reality, however, is that students develop genuine information literacy the way many other knowledge-based skills develop—from a combination of instruction and practice over a significant period of time. Information literacy is a challenging discipline involving effort closer to learning a new language than to learning to read a spreadsheet. Yet it is both possible and feasible, if information literacy librarians work to develop student research skills to a significant level.

Thus a crucial reason why information literacy does not have a significant place in academia is the fact that it is misunderstood and underestimated. If there are few opportunities to watch students become information literate, academics will assume that it can't be done, that students just don't do research well and can't be taught how to handle information skillfully except perhaps at the graduate level. And, because most students graduate anyway, even without sophisticated information skills, they assume that somehow the students have turned out all right.

The University Administration Gap

Webber and Johnson (2006) in a British study of key stakeholders within universities found minimal understanding of information literacy among academic administrators. While there was some discussion about information skills, administrators confused information literacy with computer literacy. Information literacy did not appear as such in university documents, and it found no place in marketing the university. When dealing with the library, administrators were more interested in holdings and in quantification of transactions (how many books were borrowed, etc.) than in education of users. No administrative committee in the Webber and Johnson study believed that its mandate included fostering information literacy.

Thus, even if librarians, in conjunction with faculty, were to propose an information literacy program, the possibility of getting such a program into the realm of approval and funding would be limited. The concept of information literacy, fuzzy to many faculty, appears alien to most university administrators. This problem is echoed by policy makers in society in general. A European workshop on information literacy ("Conclusions and Recommendations," 2006) concluded: "One of the main reasons for not addressing the Information Literacy problem is the insufficient understanding of

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the concept and its relevance to today's information society and knowledge-based economies among policy makers, information professionals, private sector representatives and general public."

The Silo Problem

In the summer of 2008, this author gathered a list of the 32 most highly regarded journals related to higher education teaching and administration, searching their contents as far back as possible for the term "information literacy." The results were astounding. Of the 32 journals searched, 17 had no reference to information literacy throughout their life-spans, 5 had one reference, 3 had two references, 3 had 4 to 6 references, and only 4 had more than 6 references. These searches included multiple publication years and covered multiple volumes of each journal.

To argue that over half of the best regarded journals in higher education today had never once made reference to information literacy may not tell the whole tale. There are, no doubt, many articles in these journals that deal with critical thinking and student research ability, terminology that at least contains elements of information literacy. Yet the reality remains that these findings demonstrate that there is very little crossover between the information literacy literature and higher education. While the term "information literacy" is often criticized, even by its advocates, it is indeed *the* technical descriptor for this discipline. To have the term, therefore, appear in so few higher education journals says that the considerable information literacy literature found in books and journals within the library and information studies world is not being recognized by scholars in higher education.

Christine Bruce (2001), commenting on information literacy discourse, wrote: "It has been evident that little of the literature is appearing in mainstream higher education journals or discipline-based journals, suggesting that the transformation of the information literacy agenda from a library-centered issue to a mainstream educational issue is only beginning" (p. 113). Despite the years that have followed this article, her words remain true today.

The Perpetuated Experience (Osmosis) Gap

Many faculty members either have forgotten their own process of information literacy development (Leckie, 1996, p. 202-203) or remember it rather triumphantly because they were always smarter and better at research than most of their fellow students. Either way, almost all faculty members learned their research methods by trial and error.

Speaking from over 25 years of personal experience, this author would assert that a large number of graduate students, even of doctoral students, continue to struggle to pick up skills necessary for their thesis and dissertation research, the keener of them often depending heavily on librarians. To be even more brutally honest, many of these students have an uncanny ability to optimize highly inefficient research methods and somehow pull together a decent dissertation by sheer brilliance alone despite shabby skills. These students then take up professorial roles, never having learned how to navigate a journal database with skill, use controlled vocabularies to advantage, or even take on advanced features in a library catalog.

To get where they are, faculty members have often performed informational research

by trial and error on their own with minimal guidance. They somehow made it through, and learning to do research by doing research is the only training method they know. Is it, in fact, possible to teach people how to develop research skills? It is, but most faculty members have never actually seen it done and are not especially interested in attempting it themselves.

Leckie (1996) discussed an "expert researcher" model inhabited by faculty members. Professional academics work within narrow fields where they have a strong understanding of their literature. For many of them, keeping up with a few journals and staying in contact with colleagues is more useful than doing the kinds of research performed by their students, who know little about the field they are studying and, thus, must cast a wider net to find relevant material for research projects. Leckie concluded, "The expert researcher simply cannot imagine (or refuses to think about) the continuum of problems that undergraduates have in using even a moderately-sized academic library" (p. 206)

Leckie and Fullerton (1999a) found that faculty members generally think students' research abilities improve over time. While faculty members have a weak understanding of how this occurs, they tend to believe that students learn research skills on their own or consult librarians for instruction. The writers commented:

> Unfortunately, these views tend to perpetuate the type of individualistic trial-and-error learning environment that many faculty themselves experienced in graduate school but that does not develop the information literacy skills the majority of undergraduates today will need to be productive members of society. (p. 14-15)

Webber and Johnson's (2006) study of 80 professional academics in Britain found that "most could not define 'information literacy.'" Further, university faculty members believe that students really are picking up research skills, though these professors do not discuss such skills to any great extent with students and have little notion of what libraries are teaching.

McGuiness (2006) reported similar findings from a set of extensive faculty interviews. Professors generally believed that students absorb research skills by doing research and that advanced skill development comes out of student motivation and innate ability, rather than instruction. Gaps in information literacy were blamed on the students. If they wanted such skills, they would get them. These same faculty members, however, were unable to articulate the process by which research skills were developed and had only a vague notion of the actual world of the average student doing research. McGuiness pointed out the resulting paradox. Students know they are unlikely to be graded directly on their research skills, so they devote minimal work to cultivating those skills. But faculty members, thinking that research skills are learned by students on their own, fail to provide assignments intended develop information literacy.

Weetman (2005), in a study of academic faculty at De Montfort University, found that over 90% believed that once students had completed their higher education programs, they would have become information literate to the level demanded by standards such as those of ACRL and SCONUL. Yet these faculty members could point to few activities in their classes

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planned either to teach or assess information and research skills, especially those related to acquiring information.

Thus, information literacy by osmosis remains an untested belief, scarcely more than a hopeful assumption. Most research demonstrates that it does not happen or that gains in ability without training are minimal. Without significant instruction, students do not learn to do research well simply by doing research.

Faulty Assumptions about Students and Technology

Oblinger and Hawkins (2006) pointed out a reality that has long been observed by librarians: "Whereas colleges and universities often focus on technology skills, it is actually *information literacy* that should be the concern. Information literacy is much more than knowing how to open a Web browser and type a search term into Google" (p. 12). It is quite amazing, in fact, to read the numerous studies, reports, and educational plans built around "harnessing technology for education," and then to observe how few of these publications ever mention information literacy or even describe its components.

The myth that technological ability equals information and research ability seems to have convinced the best minds in educational thinking today (Jenson, 2004). As large numbers of studies have demonstrated, however, today's highly technological students continue to fail miserably at most aspects of sophisticated information handling. This problem, in fact, may be both deeper and more subtle than simply constituting a false mythology. The fact is that much technology used by *professors* in today's higher education environment is sporadic and decidedly "old school" in a world in which Wikipedia and text messaging are the technological landmarks of students and PowerPoint is a dark ages application. Academia's version of technology is often very much behind the times. Selwyn (2007) pointed out that the emphasis on making students technologically literate with academic tools they find anachronistic both limits their creative use of information technology and actually leads them to boycott or opt out of academic information technology entirely.

A study by Grant, Malloy, and Murphy (2009) demonstrated that student ability with even basic computing software, such as word processors and spreadsheets, is less sophisticated than librarians or even students themselves believe. But, even if the assumption is that university students have a sound knowledge of the latest technology, this does not necessarily mean that they will be good researchers. Head (2008) in a study of students at a small liberal arts college, concluded:

> These findings suggest that, even though young people may have been exposed to computers since they learned the alphabet and may be avid users of sites like MySpace and YouTube, college-aged students are no more likely to be natural-born researchers and scholars than anyone else. Conducting research remains a formidable task, one that must be learned through instruction and honed with practice – a fact that librarians have known for ages. (p. 437)

The recent trend among professors, in their own research, to use Web tools like Google Scholar in preference to more complex but also more sophisticated library databases is

not helping matters (Housewright, 2008). There seems to be a general assumption among many academics that information is becoming more accessible and that search tools are easier to use. This may be true in one sense, in that a search engine like Google Scholar demands little knowledge of search techniques. But such tools produce very large result sets, comprising many types of academic literature. The illusion of ease and effectiveness thus becomes simply that—an illusion—when one considers that the end product is both confusing and much less precise than resources found through a subscribed library database. Assuming that Google Scholar is simple and sufficient may make academics less inclined to teach students how to use an EBSCO or Gale database.

Faculty Culture

Bennett (2007), discussing the work of those who promote information literacy within academia, wrote: "Their advocacy often encounters a campus environment that, although rarely hostile, is often uniformed, indifferent, or occupied with other priorities" (p. 148). If information literacy is as important as its advocates assert it is, why then does it receive so little notice among teaching faculty? One answer may well be faculty culture.

Faculty members in theory are interested in improving their students' research skills, but study after study demonstrates that they are not inclined to sacrifice classroom time to do so (Cannon, 1994; Leckie and Fullertona, 1999; Hrycaj and Russo, 2007). As Webber and Johnson (2006) argued in a study of 80 academics: "Most are unwilling to give more than an hour of their class time to information literacy, and many will not even give that much. . . . Most academics would be unwilling to involve librarians in curriculum design e.g. feeling that it was a waste of time or inappropriate."

The value of Larry Hardesty's (1995) study of faculty culture related to this issue can scarcely be over-estimated. Hardesty demonstrated that at the heart of librarian-faculty misunderstanding (and thus struggles with getting information literacy on the academic agenda) is the interplay of two distinct cultures. Whereas librarians typify a "managerial culture" of goals, collegiality, and a concern for the broader educational requirements of the student, faculty culture emphasizes "research, content, and specialization," with a "de-emphasis on teaching, process and undergraduates." A supreme value among faculty is professional autonomy, whose corollary is academic freedom. Faculty members, as well, according to Hardesty, typically face a chronic shortage of time to fulfill their tasks and are resistant to change. Thus, librarians, seeking to meet broad student informational needs and develop skills that go beyond the bounds of any particular subject discipline, are viewed by faculty as intruders.

Baker (1997) pointed out what may well be a related complication of faculty culture—the fact that faculty in discipline-related focus groups that were looking at goals for information literacy assignments tended not to see the issue in terms of broader skills for lifelong learning and the marketplace, but they framed "the student library assignment decision around narrower and more directly impactive pedagogical and educational questions, such as familiarity with the literature in a specific discipline" (p. 177). That is, faculty members think in terms of content, and specifically content within their own disciplines, rather than in terms of process and skill development that can be transferable to a wider range of subjects.

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Leckie and Fullerton (1999b) used the language of pedagogical discourse to explain the distinctiveness of faculty and librarian perceptions of their roles. Their conclusion was:

> Faculty are participating in discourses that serve to protect their disciplines, preserve their own disciplinary expertise and academic freedom, and uphold self-motivated, individualistic learning. Librarians are employing the pedagogical discourses related to meeting user needs, teaching important generic skills and providing efficient service.

They further pointed out that faculty pedagogy seeks to maintain control of the classroom, thus making it difficult for librarians to encroach into faculty held territory.

Another element of faculty culture that helps ensure the invisibility of information literacy comes from the way in which experts do research. The linear conceptions of thesis/question development, research in books, then in journals, and so on, that are part of information literacy instruction are relatively foreign to expert researchers. Stoan (1991) summarized a significant number of studies showing that expert researchers rely upon citation gleaning, reading of current journals, and interaction with colleagues for the majority of their research information. What is more, experts follow a distinctly non-linear path in doing informational research, drawing information and ideas from a wide variety of sources, all the while revising and rethinking until the project is completed. The notion of an informational research "method" is thus foreign to many professors, who would be unable to articulate one, since their research patterns change from project to project.

If faculty members, indeed, do research in non-linear ways, it is not surprising that offers by librarians to help faculty members teach their students better research methods fall on deaf or resistant ears. Research to subject experts is not a linear process that can be taught. One simply gets in there and shapes a research project or literature review. There is no consistent method.

Students, on the other hand, lacking the knowledge content and discourse expertise of their professors, require exactly what their professors reject—a set of methods or strategies to make sense of their research problems, a way to identify and acquire needed data in several formats, to compile and evaluate the data and organize it into a final project. Without the support of a knowledge base and years of experience in working with it, students without method and understanding just flounder.

Kempcke (2002) argued that the situation may have changed since Hardesty. Many institutions are re-evaluating core curriculum, and the ACRL "Competency Standards for Higher Education" have put pressure on academia to take information literacy seriously.

That might one day actually be the case, but there appears to be little evidence in current higher educational literature of movement toward a generalized embrace of information literacy by academics.

Is faculty culture an obstacle to ensuring that students become information literate? Faculty would certainly deny any such accusation, arguing that their work of teaching the content and critical thinking skills inherent to their disciplines is information literacy at its best. Information literacy, however, as defined by ACRL and many other groups, is anchored not just in

content with a little critical thinking thrown in, but also in process. Librarians, who generally focus more on process than content, find themselves hard pressed to convince faculty that knowledge of content (and even ability to think critically within content) is insufficient to make most people truly information literate (Badke 2005).

This view is supported by Sterngold (2008), himself a faculty member who has worked cooperatively with an academic librarian to deliver information literacy in marketing courses. Sterngold argues that librarians should tone down their rhetoric about information literacy, simplify their definitions to terms that faculty can understand, and give up their teaching role in favor of serving as consultants to faculty, who would do the information literacy instruction. At the same time, he admits that "many faculty members remain apathetic and uniformed about IL" (p.86)...and that most "faculty members are preoccupied with covering as much subject matter as possible in their courses, and they are not interested in devoting any more time to developing students' information competencies" (p. 87). One wonders, then, how faculty would ever be motivated to teach information literacy themselves, as Sterngold prefers.

Faculty Perception of Librarians

Faculty do not generally see librarians as full academic colleagues and, thus, have little appreciation for librarians as instructors (Saunders, 2009). This perception arises from the fact that librarians often have terminal masters degrees, have limited teaching experience, and tend not to publish as much as do classroom faculty (McGuinness, 2006, p. 575).

Many faculty members have not understood, however, the extent to which technology has changed both student culture and the information environment, territories which are common ground to librarians. Perhaps, out of a failure to put themselves and their skills forward, librarians, in turn, have not been able to demonstrate their amazing knowledge of and ability with information literacy pedagogy in a highly technologized setting. This competency is less content-oriented (though there is content, to be sure) than a facility at handling information in its new environment and passing that facility along to students. Not often having been given the chance to do much more than one-shot instruction, many librarians have yet to demonstrate what they could offer if literacy instruction were given its due within the curriculum.

The Hesitation of Accrediting Bodies

Of the six major accrediting bodies for higher education in the United States, only one—the Middle States Commission on Higher Education—has given significant emphasis to information literacy. All of the others mention it only briefly if, indeed, they use the term "information literacy" at all in their standards.

Librarians might wonder why this is the case, if information literacy has been endorsed by the significant library associations and any number of higher education associations that are well accepted within academia. Accrediting bodies do, after all, have the authority to compel the meeting of standards, do they not?

The fact is that accreditation is something more of a dance than an exercise of dictatorship. Accrediting bodies, while

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monopolies for their territories, know that keeping a distinction between what is doable and what may not be is in their best interests. These bodies, in turn, are responsible to the U.S. Department of Education's Office of Postsecondary Education for their own recognition as viable agencies, so that draconian requirements may well put them in jeopardy.

Still, the Middle States Commission has been able to produce extremely valuable resources and guidelines for its institutions without creating a riot of discontent (Middle States Commission on Higher Education, 2003, 2006), so the hesitation of the other agencies to advance the information literacy cause may well lie in areas other than fear of displeasing their constituencies.

Conclusion

This article has looked at several reasons why information literacy remains invisible. These may be summarized with one dangerously all-encompassing statement: *Information literacy is invisible because so few people recognize that there is a problem to address.* It is the nature of higher education (as undoubtedly most education) to perpetuate its past successes, even when the world changes, and to fail to recognize looming threats to its future.

The rise of information technology has created a new informational order as dramatically different from the old one as was hand-copied manuscripts from that of the printing press. When the need for skills to link the right information to the right situation becomes as recognized as it should be, librarians can only hope that academia will take up the means to help students navigate the new information age.

References

Andretta, S., Pope, A, & Walton, G. (2008). Information literacy education in the UK. *Communications in Information Literacy, 2* (1), 36-51. Retrieved from http://www.comminfolit.org/index.php/cil/article/view/Spring2008AR3/65

Badke, W. (2005). Can't get no respect: Helping faculty to understand the educational power of information literacy. *The Reference Librarian*, *43*(89/90), 63-80.

Baker, R.K. (1997). Faculty perceptions towards student library use in a large urban community college. *Journal of Academic Librarianship, 23*(3), 177-182.

Bennett, S. (2007). Campus cultures fostering information literacy. *portal: Libraries and the Academy, 7*(2), 147-167.

Bruce, C. (2001). Faculty-librarian partnerships in Australian higher education: Critical dimensions. *Reference Services Review*, *29*(2), 106-116.

Cannon, A. (1994). Faculty survey on library research instruction. *RQ*, 33(4), 524-541.

Conclusions and recommendations to UNESCO and CEI (draft). (2006). *Workshop on Information Literacy Initiative for Central and South East European Countries, Ljubjana, Slovenia, March 27-28, 2006*. Retrieved from http://portal.unesco.org/ci/en/files/21870/11453537729Conclusions_and_recommendations_Ljubjana_Meeting.doc/Conclusions%2Band%2Brecommendations%2BLjubjana%2BMeeting.doc

Grant, D. M., Malloy, A. D., & Murphy, M.

C. (2009). A comparison of student perceptions of their computer skills to their actual abilities. *Journal of Information Technology Education, 8*, 141-160. Retrieved July 21, 2009, from http://jite.org/documents/Vol8/JITEv8p141-160Grant428.pdf.

Hardesty, L. (1995). Faculty culture and bibliographic instruction: An exploratory analysis. *Library Trends, 44*(2), 339-367.

Head, A. (2008). Information literacy from the trenches: How do humanities and social science majors conduct academic research? *College & Research Libraries, 69*(5), 427-445.

Head, A. J., & Eisenberg, M. B. (2009b). *Lessons learned: How college students seek information in the digital age: Project information literacy progress report*. Retrieved from http://projectinfolit.org/pdfs/PIL_Fall2009_Year1Report_12_2009.pdf.

Housewright, R., & Schonfeld, R.. (2008). *Ithaka's 2006 studies of key stakeholders in the digital transformation in higher education*. New York: Ithaka. Retrieved from http://www.ithaka.org/research/Ithakas%202006%20Studies%20of%20Key%20Stakeholders%20in%20the%20Digital%20Transformation%20in%20Higher%20Education.pdf.

Hrycaj, P., & Russo, R. (2007). Reflections on surveys of faculty attitudes toward collaboration with librarians. *The Journal of Academic Librarianship, 33*(6), 692-696.

Jenson, J.D. (2004). It's the information age, so where's the information? *College Teaching, 52*(3), 107-112.

Kempcke, K. (2002). The art of war for librarians: Academic culture, curriculum reform, and wisdom from Sun Tzu. *portal: Libraries and the Academy, 2*(4), 529-551.

Leckie, G.J., & Fullerton A. (1999a). Information literacy in science and engineering undergraduate education: Faculty attitudes and pedagogical practices. *College & Research Libraries, 60*(1), 9-29.

Leckie, G.J., & Fullerton A. (1999b) The roles of academic librarians in fostering a pedagogy for information literacy. 9th ACRL Conference, Detroit, Michigan, April 8-11, 1999. Retrieved from http://staging.ala.org/ala/mgrps/divs/acrl/events/leckie99.pdf.

Middle States Commission on Higher Education. (2006). *Characteristics of excellence in higher education: Eligibility requirements and standards for accreditation*. Retrieved from http://www.msche.org/publications/CHX06_Aug08080728132708.pdf.

Middle States Commission on Higher Education. (2003). *Developing research and communication skills: Guidelines for information literacy in the curriculum*. Philadelphia: Middle States Commission on Higher Education. Retrieved from http://www.msche.org/publications/Developing-Skills080111151714.pdf.

Oblinger, D. G., & Hawkins, B. L. (2006) The myth about student competency. *Educause Review*, 41(2). Retrieved from http://www.educause.edu/ir/library/pdf/ERM0627.pdf.

Primary Research Group. (2008). *College information literacy efforts benchmarks*. New York: Primary Research Group.

Saunders, L. (2009) The future of information literacy in academic libraries: A

https://pdxscholar.library.pdx.edu/comminfolit/vol4/iss2/2
DOI: 10.15760/comminfolit.2011.4.2.92

Delphi study. *portal: Libraries and the Academy, 9*(1), 99-114.

Selwyn, N. (2007). The use of computer technology in university teaching and learning: A critical perspective. *Journal of Computer Assisted Learning, 23*, 83-94.

Sterngold, A. H. (2008). Rhetoric versus reality: A faculty perspective on information literacy instruction. In Hurlbert, J.M. (ed.) *Defining relevancy: Managing the new academic library* (pp. 85-95). Westport, CN: Libraries Unlimited.

Stoan, S. K. (1991). Research and information retrieval among academic researchers: Implications for library instruction. *Library Trends, 39*(3), 238-258. Retrieved from http://www.ideals.illinois.edu/bitstream/handle/2142/7725/librarytrendsv39i3g_opt.pdf?sequence=1.

Webber, S. and Johnston, B. (2006) Working towards the Information Literate University. In Walton, G. and Pope, A. (Eds.) *Information literacy: Recognising the need. Staffordshire University, Stoke-on-Trent: 17 May 2006*, (pp 47-58). Oxford, UK: Chandos Retrieved from http://dis.shef.ac.uk/sheila/staffs-webber-johnston.pdf.

Weetman, J. (2005). Osmosis -- does it work for the development of information literacy? *Journal of Academic Librarianship, 31*(5), 456-460.