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"Being Literate About Something": Discipline-Based Information Literacy in Higher Education

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by

Jill Elizabeth Anderson

2009

The Report committee for Jill Elizabeth Anderson

Certifies that this is the approved version of the following report:

"Being Literate *about Something*": Discipline-Based Information Literacy in Higher Education

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"Being Literate *about Something*": Discipline-Based Information Literacy in Higher Education

by

Jill Elizabeth Anderson, PhD

Report

Presented to the Faculty of the Graduate School of

The University of Texas at Austin

in Partial Fulfillment

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Master of Science in Information Studies

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December 2009

Dedication

For my parents, Jack and Donna Anderson, with love and in gratitude for their constant love and support.

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December 2009

Abstract

"Being Literate *about Something*": Discipline-Based Information Literacy in Higher Education

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The University of Texas at Austin, 2009

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Abstract: This report examines how academic librarians and theorists have discussed the issue of discipline-based information literacy instructional approaches since the publication of the ACRL Information Literacy Competency Standards for Higher Education in 2000. As Kate Manuel has recently noted, the Standards balance outcomes and indicators of universal or general information-literacy skills with more discipline-specific skills. Prior to the publication of the ACRL Standards, Stephen Plum argued that disciplinary standards can provide valuable frameworks for library instruction; more recent theorists have focused attention on general skills, some arguing that discipline-based skills are the province of subject faculty, others suggesting that discipline-based skills are modeled on more general skills, still others suggesting that liaison librarians work collaboratively with faculty to address discipline-specific information needs. Based on a literature survey, my report is a thought piece addressing the following interlocking questions: how do discipline-based skills relate to more general skills? Who should teach discipline-based information literacy? Is information literacy a discipline in its own right? What role might the subject specialist play in discipline-based information literacy initiatives?

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Chapter 1: Introduction

In 2000 the Association of College and Research Libraries published its Information Literacy Competency Standards for Higher Education. Based on the ALA's 1989 definition of information literacy as the ability to "recognize when information is needed and [to] have the ability to locate, evaluate, and use effectively the needed information" (*Information literacy competency standards*, 2000, p. 2), the ACRL Standards seek to define and establish standards of information literacy for higher education, with implications for K-12 education as well. The five outlined standards, broadly defined, require that an information literate student be able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally (*Information literacy competency standards*, 2000, pp. 2-3)

Assigning each overarching standard a set of performance indicators (twenty-two performance indicators in all) with accompanying outcomes for assessing student progress, the ACRL Standards are a landmark tool for academic librarians and, given their wide sweep, for institutions of higher education in general.

The ACRL Standards address generic skills applicable across disciplines. Distinguishing between information technology fluency and information literacy, the Standards define information literacy as:

> an intellectual framework for understanding, finding, evaluating, and using information—activities which may be accomplished in part by fluency with information technology, in part by sound investigative methods, but most important, through critical discernment and reasoning. Information literacy initiates, sustains, and extends lifelong learning through abilities which may use technologies but are ultimately independent of them. (*Information literacy competency standards*, 2000, p. 3)

Building on technological facility but not limited to it, information literacy here is portrayed as both intellectual structure and activity: in addition to drawing on problem-solving and critical thinking involved in the intellectually conscious use of technology, the student also must use investigative skills and exercise discernment and reasoning when assessing information. In other words, information literacy is intellectually active, encompassing searching and retrieval skills but also requiring active thought about and assessment of materials acquired.

While the standards themselves focus on broadly applicable general skills (referring to these as "lower-order" skills, using Bloom's Taxonomy), the performance indicators and outcomes are described as including "higher-order" skills as well, skills more readily associated with more advanced subject courses and with students' intellectual progress over time; as Kate Manuel has noted, the performance indicators and outcomes focus more explicitly on disciplinary differences (Manuel, 2004). Discipline-specific information skills build on and mesh with lower-order skills. For example, Outcome b. for Standard 1/Performance Indicator 2 requires that a student "[recognize] that knowledge can be organized into disciplines that influence the way information is accessed," (*Information literacy competency standards*, 2000, p. 8) a lower-order skill that at once requires students to register disciplinary differences, while also opening the door to greater understanding of how one's chosen discipline works; additionally, as interdisciplinary programs become more common, an awareness of disciplinary difference can facilitate the cross-pollination so vital to interdisciplinary programs and courses. Standards 3 and 4, which focus on the evaluation of

information, its incorporation into an existing knowledge base, and the accomplishment of a specific task or purpose, also speak to more disciplinary-specific learning and project development (*Information literacy competency standards*, 2000). As an undergraduate declares a major and becomes more familiar with the methods and content knowledge involved in that field, their information literacy needs advance, drawing on but also exceeding the skills gained in more general-education coursework. Students required to complete a final capstone project or thesis have even more particular informational needs as they learn not simply to gather and evaluate information, but to select and organize that information toward a specific end within a specifically defined discipline, often more complex than prior projects had been.

The Introduction to the Standards notes that faculty and librarians should collaborate to develop assessment models and strategies in the contexts of specific disciplines, stating "information literacy manifests itself in the specific understanding of the knowledge creation, scholarly activity, and publication processes found in those disciplines." (*Information literacy competency standards*, 2000, p. 6). The five standards themselves comprise a kind of information-seeking cycle: knowing information is needed, finding it, evaluating it, using it, understanding its context. As Benjamin Harris and Michelle Millet have noted, information seeking is not necessarily this linear of a progress, instead often involving considerable amounts of doubling back and refining searching (Harris & Millet, 2006). The outcomes and indicators associated with each standard suggest not simply agendas for assessment, but also markers of development: one starts with the most basic or generic manifestation of the standard, and progresses to more sophisticated interpretations or mastery of the area of informational skills represented by each standard. More than a simple checklist, the Standards offer a graduated model of information-literacy development, a

means of assessing increased ability and disciplinary knowledge over the course of a student's academic career.

In her discussion of the generic and disciplinary aspects of the ACRL Standards in relation to the sciences, Kate Manuel has shown examples the interplay of generic and disciplinary language in the Standards. On the one hand, the descriptive sections include multiple references to universal skills common among the disciplines; on the other hand, these sections also include references to students' informational needs being determined by discipline, with Standards 1, 2, and 3 including outcomes and indicators specifically referring to skills and applications that vary by disciplines: definitions of primary and secondary sources, necessity for language acquisition, discipline-specific controlled vocabularies, investigative protocols "appropriate to [a] discipline," and discipline-derived testing techniques (Manuel, 2004, p. 283, chart reproduced in Appendix I). Manuel notes the Standards' emphasis on temporality, pointing to the assertion that individual disciplines are likely to emphasize different skills at different points of their respective curricula, a point that underscores the flexibility of generic skills and their ability to be tailored to disciplinary needs (Manuel, 2004). Closely related to this temporality is the student's presumed growing comprehension of the content, methodologies, and publication formats of their chosen major or majors. As a student delves more deeply into the content and structure of a particular discipline, their skills will increasingly require tailoring to meet the needs imposed by a particular discipline.

Disciplines powerfully shape higher education. Faculty and graduate students strongly identify with their disciplines; undergraduate students are required to select a major (or majors) at a given point in their academic career, often after or while taking general-education courses in a range of departments. The informational needs of faculty, graduate students, and undergraduate students are fundamentally shaped by the conventions and

structures of the disciplines they pursue. At the same time, the formats and accessibility—including, but not limited to, electronic accessibility—of resources are also influenced by discipline-based conventions and attitudes. Christine Borgman's recent discussion of how the availability of materials online fluctuates according to broadly based disciplinary categories (the sciences, the social sciences, and the humanities) complements studies of university members' informational needs, and offers an interesting corrective: we must consider not simply disciplinary needs, but also how disciplinary attitudes and conventions condition those needs *and* condition what is readily available—and what should be made available in the future (Borgman, 2007). Borgman's work offers an important angle on information literacy, by suggesting how disciplinary conventions shape fields' entry—or, more precisely, rate of entry—into the digital environment. For one example: the *Chronicle of Higher Education* recently reported on a forthcoming study showing the exorbitantly high cost of publishing major journals in the humanities, in contrast to the lower cost of publishing scientific journals (Howard, 2009).

In 1984, Stephen Plum argued that discipline or area of study offered a powerful structuring context for information literacy. Though Plum was describing bibliographic instruction, a category somewhat more narrow than what we now consider information literacy to be, Plum's argument, emphasizing the need for 1) awareness of a discipline's methodology, 2) the structure of its literature, and 3) the best means of accessing discipline-specific information, still holds value in today's electronic environment. Plum's larger point, that discipline provides a useful context for instruction, is readily updatable to the current informational environment. As Borgman's work suggests, print and electronic information alike are published into an intellectual environment structured by discipline (Plum, 1984; Borgman, 2007).

In this report, I discuss several interlocking questions that emerge from considerations of discipline-specific information literacy approaches: how do discipline-based skills relate to more general information literacy skills? Who should teach discipline-based information literacy? Is information literacy a discipline in its own right? What role might the subject specialist play in discipline-based information literacy initiatives? The paper concludes with a discussion of several practical resources addressing discipline-based information literacy. It should be noted that this paper is not intended to be an exhaustive survey of the large amount of literature on information literacy in general, nor an exhaustive survey of the literature dealing with the theory and practice of information literacy in particular disciplines (which might be profitably done in a larger study structured along the lines of Dorothy Warner's recent *A Disciplinary Blueprint for the Assessment of Information Literacy* [2008], with specific chapters dedicated to disciplines). Rather, this paper is intended to be a thought piece suggesting a range of issues for further research and consideration.

Chapter 2: How Do Discipline-Based Skills Relate to More General Information Literacy Theory and Skills?

As noted, the five standards outlined in the ACRL Standards should be able to address broad categories of information literacy: identify the need for information; access information effectively; evaluate information and its sources critically and incorporate it into a knowledge base; accomplish a specific task or purpose through the use of information; and contextualize information and information technology (*Information literacy competency standards*, 2000). Discussions of information-literacy programs designed for first-year students or general-education programs can reasonably assume that such students have not declared majors and are in need of basic informational skills needed to navigate introductory-level courses and their new intellectual environment in general (although it bears noting that not all students complete their general education requirements within their first two years of study). Consequently such programs are designed to introduce students to generic information skills, and can readily be seen as the province of librarians. As Kate Manuel has noted, "there is no field—beyond information science—to which the first-year students' needs correspond." (Manuel, 2004, p. 282).

In her 2002 article "A Discipline-Based Approach to Information Literacy," Ann Grafstein argues that information literacy can be more broadly defined as "an independent and critical way of thinking and reasoning about disciplines" and states that "imparting IL skills to students involves equipping them with both knowledge about the subject-specific content and research practices of particular disciplines, as well as the broader, process-based principles of research and information retrieval that apply generally across disciplines." (Grafstein, 2002, p. 197). Grafstein distinguishes between the discipline-based skills proceeding from subject knowledge and more generic, more abstract skills—searching skills

and generic critical thinking skills (timeliness, authority, bias, verifiability, logical consistency). According to Grafstein, these more general skills are best taught by the librarian, "whose specialty is the retrieval, structure, and organization of information." (Grafstein, 2002, p. 201)

In Grafstein's analysis, faculty, on the other hand, should bear the responsibility for discipline-specific skills, which Grafstein identifies as evaluating the content of arguments, assessing the validity of evidence, and proposing original solutions. These skills are inherently part of the mastery of knowledge within a discipline; faculty, who themselves are expected to be deeply engaged in precisely these processes in their own research, should incorporate instruction in these processes into their own courses. Grafstein's assignment of subject-specific skills to faculty and generic skills to librarians, acknowledging as it does the primacy of discipline as a means of organizing information and knowledge, places these skill sets into separate camps. At the same time, her argument suggests strong connections between generic and discipline-specific skills: her list of discipline-specific skills, in effect, seem to be versions of the generic skills, refined or narrowed to particular concerns. For example, moving from generic evaluation of a source's reliability, to evaluation of a source's relevance within a particular discipline—the process is similar, but the outcome in the latter is focused on a more specific goal (Grafstein, 2002).

Curriculum-integrated information literacy instruction, often promoted as a significant way of incorporating information literacy into the broader campus mission, in effect draws on this contextual framework, potentially blurring Grafstein's somewhat binaristic distinction between generic skills as the province of the librarian and subject-specific skills as the province of the faculty (see also Snavely & Cooper, 1997). While calls for curriculum-integrated instruction often focus on integration into general-education programs, students in upper-level courses can also benefit from more advanced or more

discipline-specific information literacy instruction. Calls for collaboration and, in particular, for tailoring bibliographic or information-literacy instruction to particular course needs are tacit acknowledgments of discipline-based needs: a one-size-fits-all generic-skills approach is less likely to meet specific course needs and can leave students unaffected or disaffected. In his essay calling for problem-based learning in higher education, Larry Spence has noted his students' inability to process general searching and retrieval instruction from a librarian because, as the students claimed, "they knew that already," even though their research and writing indicated that they did not, in fact, "know that already." (Spence, 2004) Grafstein does not offer practical models of how the distinction between librarian/generic skills and professor/discipline-based skills might function in a classroom or academic-library environment. Case studies of faculty-librarian information literacy collaborations would seem to suggest that the lines between general and discipline-specific skills become blurrier in practice; real-world collaborations developed for a general-education curriculum can also be tailored to incorporate discipline-specific skills necessary for upper-level or graduate-level student needs (Grafstein, 2002; cf. also Mackey & Jacobson, 2004).

In her discussion of information literacy in the sciences, Kate Manuel notes that the distinctions some theorists (including Grafstein) make between generic and discipline-base skills tend to obscure the broader reality that, in her words, "in practice, *any* IL competency could be taught within both a generic and a discipline-specific context. The way in which the competency is presented will primarily be determined by the needs of local students and instructors." (Manuel, 2004, p. 282) Grafstein acknowledges that discipline necessarily shapes students' informational needs; as she notes, information literacy cannot be practiced in a contextual vacuum, but needs always to be "*about something*" (Grafstein, 2002, p. 202). Indeed, the distinctions that Grafstein draws between generic and discipline-specific skills seem, ultimately, to be based on the issue of subject content—or, perhaps more precisely, on

the use of subject content. While the student will, at all levels, need to understand how to search for, access, and evaluate the reliability of information, skills Grafstein identifies as the province of the librarian, the ability to use that information effectively will become more discipline-based as the student progresses in his or her major (or takes upper-level courses in other fields).

Put another way, the transition from generic to discipline-specific skills can be seen as about the uses to which the information accessed or acquired is to be put—a skill addressed in the ACRL Standards' Standard 3, in which the student evaluates information and "incorporates *selected* information into his or her knowledge base" (*Information literacy competency standards*, 2000, p. 11, emphasis added) and Standard 4, in which the student "uses information effectively to accomplish a specific purpose" (*Information literacy competency standards*, 2000, p. 13). If generic skills focus on information searching, retrieval, and evaluation strategies, discipline-based skills draw on those skills while calling for specific refinements based on disciplinary conventions, practices, and subject or content matter. An understanding of how information is to be used for a particular project or assignment is a vital means of structuring and narrowing search, retrieval, and evaluation strategies. Discipline (the pun is intentional) can help a student narrow his or her search and retrieval strategies: if a student is writing a US history paper, that student can benefit from understanding what is included in EBSCO's Academic Search Premier *and* what is included in America: History and Life. The former may be more appropriate for a student searching for general information; the student looking to write a more advanced research paper may profit from the narrower scope of America: History and Life, but be able to use Academic Search Premier or Lexis-Nexis to find popular sources which could be used as either primary or secondary sources, depending on the topic and nature of the paper. Knowledge of disciplinary conventions can also help the student evaluate sources, not only for their

reliability, but also for their relevance to their topic and their acceptability to the professor. Evaluation for reliability is a crucial first step; evaluation for relevance to one's own topic or argument builds on that skill, placing it into a more specific disciplinary context.

Chapter 3: Who Should Teach Discipline-Based Skills?

As noted above, in her discussion of discipline-based information literacy, Ann Grafstein has distinguished between general skills and discipline-specific skills in order to assign, loosely, generic skills as the province of the librarian and discipline-based skills to subject faculty. Keith Stanger draws the line even more definitively than Grafstein does, arguing that since, according to Stanger, librarians are not trained in subject content and should not, consequently, be expected to have significant subject knowledge (thus downplaying the role of academic librarians who do in fact have an advanced subject degree), their responsibilities are sharply distinct from faculty's responsibilities. Framing his argument in an analysis of the five ACRL Standards, Stanger sees Standard 2, with its emphasis on discovery of and access to information, as the primary responsibility of librarians, with the other standards largely the responsibility of the faculty. Stanger, using a definition of generic skills somewhat different from Grafstein's, identifies the "generic" skills of reading, writing/speaking, and critical thinking as also being the primary responsibility of teaching faculty, cultivated through the completion of assignments. The librarian contributes to the student's educational experience by offering training in skills (and standing as a "nonjudgmental 'stranger' standing outside the faculty-student relationship [Stanger, 2009, p. 5]) rather than contributing more directly to the student's subject knowledge—in short, not concerning themselves with the subject the student is attempting to research and focusing more on generic search, retrieval, and evaluation skills. Faculty, claims Stanger, and faculty alone are responsible for subject knowledge (Stanger, 2009).

Significantly, Stanger's argument implies that subject content is the only form of disciplinary knowledge a student would need. Stanger implicitly divorces the intellectual frameworks Plum describes—disciplinary conventions, methods, and literature structure—

from content, drawing a perhaps too neat distinction between information literacy skills and subject knowledge. Plum, on the other hand, argues that disciplinary contexts are an important framework for library instruction, an argument which takes into account that a given discipline not only focuses on a particular body of content, but also develops its own literature, approaches, and other intellectual tools for producing and managing that content (Plum, 1984; see also Kautto & Talja, 2007). Graduate education involves the mastery of these tools, but an at least preliminary understanding of these tools can also benefit upper-level majors, particularly those navigating a capstone research project. John East's description of an information-literacy program designed specifically for humanities graduate students—divided between "general skills" and "specific formats," with the "general" skills in this case narrowed to information structure, organization, and tools specific to humanities disciplines and "specific formats" focusing on the genres and formats of the materials himself—could be profitably applied, in a modified form, to humanities capstone students (East, 2005).

Antony Simpson has also argued that research skills are best taught in "a credit course of disciplinary substance, or more explicitly concerned with research design;" however, rather than seeing more advanced research skills as the territory of the subject faculty, Simpson calls for team teaching, with librarians seen (and seeing themselves) as equal partners, not reduced to what he calls "a purely technical role." Concerned (in 1998), about the emphasis on computer skills and literacy over research ability, Simpson argues that academic librarians should take the opportunity offered by the explosion of electronically available information to claim this role as educational equal; similarly, writing in 2000, Raspa and Ward note that this era of exponentially increasing information means that faculty and librarians cannot adequately research processes separately, but must work together to help students (and, as Given and Julien suggest, each other) to navigate the new environment.

Simpson also argues that disciplinary context is an important way of organizing and assessing a rapidly growing body of knowledge, though it is worth noting that Simpson is writing primarily about doctoral students. Nevertheless, like East's program, Simpson's insights about the teaching of research skills can also be profitably applied to upper-level or capstone courses (Simpson, 1998; Raspa & Ward, 2000; Given & Julien, 2005).

Vesa Kautto and Sanna Talja's discussion of "disciplinary socialization" in the context of information literacy strongly argues for discipline-based information literacy. Though, like East and Simpson, Kautto and Talja's study focuses on graduate students, their study of disciplinary socialization in four distinct graduate fields of study also has important implications for upper-level undergraduate instruction. Choosing fields that reflect Becher's four categories of discipline (hard-pure, soft-pure, hard-applied, and soft-applied), Kautto and Talja draw on situated-learning discourse to identify two main bodies of knowledge that students learn as part of their socialization into a discipline: knowledge gained from long experience in the discipline, which includes the ability to recognize what counts as a useful contribution, as a question well answered, as a good argument, and as good scholarly criticism; and the second kind, knowledge relating to the practical application of disciplinary knowledge and tradition. Surveying the informational needs of graduate students (and, implicitly, faculty) in four programs at the University of Tampere, Kautto and Talja conclude that disciplinary socialization so strongly shapes informational needs that, as they put it:

> what is currently understood as higher order information literacy, abilities going beyond database and web searching skills, namely literature use and evaluation skills, are inherently domain specific in nature, and, as such, cannot be meaningfully taught as separate from disciplinary discourses, contents, and contexts. (Kautto & Talja, 2007, p. 55)

So central is the disciplinary context to informational skills that Kautto and Talja argue that "an approach to teaching information skills that will be adequate and useful for one discipline can be confusing, and even harmful, within the context of another." (Kautto &

Talja, 2007, p. 55). The imputation of harm may be somewhat extreme, although it does suggest that students be encouraged to think about disciplinary differences early in their undergraduate career, as a kind of inoculation against the intellectual 'harm' suggested here. Kautto and Talja recognize that this emphasis on discipline-specific instruction may shift the focus of information literacy instruction away from the library, calling instead for the integration of information retrieval and systems expertise directly into the disciplinary curriculum: making it, in other words, the responsibility of department faculty (Kautto & Talja, 2007).

If traditional bibliographic or library instruction has focused on familiarizing students with library resources, more current definitions of information literacy embrace the entire campus learning environment, extending beyond explanations of what resources the library has and how to use them. The ACRL Standards are a particularly visible example of this reach, and have been criticized for attempting to dictate pedagogical practice to members of the academic community who do not answer to the ALA or ACRL (see Stanger, 2009; Owusu-Ansah, 2003, 2004, 2007). Asks Stanger: "What theoretical or educational background gives librarians credibility preaching to disciplinary faculty about the learning outcomes and skills faculty courses should engender?" (Stanger, 2009, p. 4). Such resistance to the Standards' broader mission can also accompany reluctance to support collaboration between librarians and faculty and a preference to adhere to separate missions.

Edward Owusu-Ansah has warned of the dangers for librarians inherent in collaboration with faculty, arguing that such collaboration can place librarians in a one-down position, leading them to defer to faculty who possess greater subject knowledge and to downplay their own skills and expertise. Favoring a definition of information literacy that identifies it as a distinct body of knowledge, if not a discipline in its own right, Owusu-Ansah calls on librarians to avoid self-deprecating tactics and to push for the establishment

of for-credit information literacy courses on their campuses (Owusu-Ansah, 2003, 2007). Stating that "credit offerings command the attention of students, faculty, and administrators and serve as the key indicator of what an institution considers essential in the education of its students," (Owusu-Ansah, 2007, p. 417) Owusu-Ansah argues that such credit-bearing courses will grant librarians their rightful place within a campus' broader educational mission and help the academic library assert and promote its rightful place as the center of that mission (interestingly, less than ten years earlier, Leckie and Fullerton noted little support for this sort of course among science faculty [Leckie & Fullerton, 1999]; in her 2004 response to Owusu-Ansah, Diane Zabel also noted the lack of interest in for-credit information literacy among faculty and students alike [Zabel, 2004]).

In his work in general, Owusu-Ansah's discussions of librarians' power via information literacy is rooted in his sense of information literacy as a distinct set of skills and librarians as the possessors of an expertise distinct from that of faculty, "predicated on a better understanding [than faculty have] of the relationship between information and knowledge and the unique position libraries occupy in collecting, organizing, and mediating access to those two basic ingredients of the educational enterprise." (Owusu-Ansah, 2007, p. 418). Anticipating resistance to his assertions, Owusu-Ansah describes:

> the erroneous perception among many instructional librarians that it is subject faculty, and only such subject faculty, who can provide the necessary context for developing library and information competencies. The underlying assumption appears to be that library and information-related competencies, being of a more generic nature, do not and cannot in and of themselves capture the interest and attention of students. Consequently, references to teaching information literacy in a vacuum surface in discussions about independent library course offerings. (Owusu-Ansah, 2007, pp. 422-23)

Owusu-Ansah here suggests that generic information-related competencies can be presented in such a way as to "capture the interest and attention of students," a point he repeats in his

response to Diane Zabel's argument supporting librarians' participation in discipline-based information literacy (Zabel, 2004; Owusu-Ansah 2004). Gloria Leckie has noted that faculty members can too easily expect students to fall into professors' own "expert researcher" model and consequently fail to understand the vantage points of their "novice" students; I would respectfully suggest that Owusu-Ansah is approaching the issue of generic competencies from a similar "expert librarian" stance (Leckie, 1996). As professors often inadvertently assume that undergraduates wish to emulate them and become scholars, in this case, it would seem that the librarian is assuming that undergraduates will wish to become librarians (a point also made by librarian Stanley Wilder in the *Chronicle of Higher Education* in 2005). Like the novice students in Leckie's analysis, students are interested in completing assignments in ways that their professors will approve of. Generic information-related skills are highly useful as tools, but students attempting to complete assignments are unlikely to appreciate them as ends in themselves. To reiterate my title phrase, taken from Grafstein, information literacy, in the end, needs to be "*about something*." (Grafstein, 2002). Though Owusu-Ansah acknowledges that generic skills provide a foundation for discipline-specific skills and tasks, his argument is intended to legitimize generic skills as a valid basis for credit-bearing courses (Owusu-Ansah, 2003, 2004, 2007).

Owusu-Ansah seeks to grant librarians intellectual authority based on their expertise in generic information-literacy skills. His arguments support Grafstein's distinction between information-literacy skills to be taught by librarians and skills to be taught by faculty. Like Stanger, Owusu-Ansah's work implies tension between faculty and librarians, with Owusu-Ansah's librarians too willing to defer to subject faculty; interestingly, Stanger makes it clear that he prefers not to teach for credit, noting his pleasure in "being able to enter into an instructional and supportive relationship with students without wielding the emotional stick of applying grade rankings." (Stanger, 2009, p. 5) While Owusu-Ansah's calls for librarians to

assert their intellectual ability and authority are well taken, his work also suggests tense if not antagonistic relations between faculty and librarians.

Many other librarians and theorists have discussed the need for collaboration between faculty and librarians in order to develop effective information literacy sessions and programs. This is not the place for a detailed analysis of the literature on faculty-librarian collaboration, but it is important to recognize that curriculum-integrated information literacy instruction in any form, including simple one-shot sessions, depends heavily on the willingness of faculty to work with librarians (and, it should be underscored, vice versa). Misunderstandings and miscommunication plague faculty/librarian relationships on both sides. As Given and Julien have shown in their study of librarians' perceptions of faculty drawn from posts to the BI-L/ILI-L listserv, many librarians (or, at least many of the librarians who use BI-L/ILI-L as a forum) describe relationships with faculty in negative terms, seeing faculty as possessive and territorial, inflexible, rude and uncooperative, distanced from their teaching role, locked into teaching ruts, and generally unaware of and/or unappreciative of librarians' abilities and limitations; "implicit in these examples," note Given and Julien, "is the notion that librarians are dedicated, caring individuals, who continually strive to meet students' needs—despite their frustrations with faculty members." (Given & Julien, 2005, p. 33) Stanger's essay stands as an example of this attitude—as the librarian, he clearly wears the white hat. Though Given and Julien list the positive attributes assigned to faculty by a much smaller number of librarians, their analysis suggests a strongly negative view of faculty among librarians (which may also suggest that these librarians view BI-L/ILI-L as a "safe" venting space).

Acknowledging these kinds of tensions, Larry Hardesty, Paul Jenkins, and others have sought to demystify faculty culture in order to promote better understanding and relationships between the two populations (Hardesty, 1995; Jenkins, 2005; Manuel et al.,

2005). In their 1999 study of science faculty's experiences with information literacy instruction, Gloria Leckie and Anne Fullerton found disconnects between faculty and librarians' understandings of what precisely was meant by information literacy, especially since many of the science faculty involved in the study were reluctant to include librarians in assignment development, teaching or teaching preparation, or grading. Interestingly, rather than dismissing these attitudes as inconsiderate or arrogant on the part of faculty, Leckie and Fullerton suggest that more research be done into these disjunctures in order to identify what is meant on each side, and to create some kind of common ground. Collaboration must involve conversation between the involved parties and consistent clarification about objectives and outcomes, even down to the language used on both sides to characterize those. At the same time, the concreteness and granularity of Leckie and Fullerton's discussion provides a necessary grounding to the often too-idealistic and too-abstract portrayals of the value of collaboration; witness, for example, Raspa and Ward's rhapsodic definitions of collaboration as "wondering with faculty and students how to explore a problem in the universe of information, a universe where everything radiates in fields of energy and light, and all boundaries separating domains are constructed by the human mind," or "the passionate pursuit of knowledge in dialogue, in the joyful give-and-take of intelligent listening where we hear the other and are heard by him or her." (Leckie & Fullerton, 1999; Raspa & Ward, 2000, p. 3 and p. 6). These are worthy as high-end goals, but need to be balanced against the real miscommunications and misunderstandings seen to occur between faculty and librarians.

Given and Julien argue that librarians' persistent perceptions of arrogant, difficult faculty who fail to understand librarians as they want to be understood point to a key problem in faculty/librarian relationships: some librarians' unwillingness to view faculty as the librarians' clients, as much as students are librarians' clients. Given and Julien notes that

"until librarians embrace faculty as clients themselves, deserving of the same level of respect and support afforded undergraduate and graduate students, IL librarians may continue to fight an uphill battle to bring faculty members onside." (Given & Julien, 2005, p. 36). Echoing Grafstein, Given and Julien call for librarians to recognize the "separate, but related… spheres" occupied by librarian and faculty, but their solution is markedly different, calling for the librarian to reframe faculty not as opponents, but as clients who can themselves benefit from the librarian's abilities. (Given and Julien, 2005, p. 36).

Taking a slightly different position, Gloria Leckie noted in 1996 that faculty members, rooted in what she has called the "expert researcher" model, often fail to understand the vantage points of their students, especially their lower-level students, who are not experts and who approach the subject materials and assignments from a novice perspective; often having more contact with the students as they struggle to complete their assignments, librarians are better able to recognize students' novice behaviors. Calling for information-seeking and evaluative skills to be incorporated into course content by faculty using a stratified methodology, Leckie places the responsibility for this instruction onto the faculty instructor's shoulders (Leckie, 1996).

Significantly, although her discussion of disciplinary differences is limited to the opening section describing faculty PhDs, disciplinary definitions subtly shape Leckie's analysis. The sample assignment she analyzes is from geography, her doctoral field, but the broad topics could be supplanted by any topics from any discipline. However, for an imaginary student confronting similar assignments in geography and, say, history, disciplinary conventions will necessarily shape the outcomes desired by the assigning professors. That student will need not only the general skills outlined by Leckie, but also broader contextual understanding of what "counts" as popular and scholarly literature in each field, what shortcuts are available in each field, and typical writing conventions in each field. Leckie

argues that these frameworks should be provided by subject faculty, with librarians setting limits with relevant faculty, shifting from saying "I can do that" to saying "I can help you accomplish this" for courses. (Leckie, 1996, p. 207) Leckie suggests that the librarian become in effect a information-literacy mentor to the faculty member, with the faculty member—here functioning as a slightly different kind of client—responsible for integrating information skills into their discipline-based classes and in need of assistance in achieving this (Leckie, 1996).

Leckie's suggestion parallels Grafstein's distinction between faculty and librarian roles in information literacy, while shifting more responsibility to faculty members, expecting and encouraging them to draw on the librarian's information literacy experience while designing their courses and specific assignments. Leckie's mentorship model is also an example of how a librarian might take a proactive role in educating faculty about their particular strengths and expertise: identifying one's self as a mentor rather than as a collaborator places the librarian in a position of strength, avoiding the deferential stance Owusu-Ansah criticizes (Leckie, 1996; Owusu-Ansah 2007). Collaboration is a two-way street: faculty and librarians need to understand the particular strengths and abilities—and perhaps also weaknesses—on each side.

Chapter 4: Information Literacy as a Discipline

In 1996, Shapiro and Hughes published their tellingly titled article "Information Literacy as a Liberal Art" in *Educom Review*. Arguing for education in general to adopt a general information-literacy curriculum rather than focus on technical skills, Shapiro and Hughes turn to eighteenth-century Enlightenment thinkers, particularly Condorcet, to argue for information literacy as a democratizing educational force, a liberal art, a source of "knowledge that is part of what it means to be a free person in the present historical context of the dawn of the information age." (Shapiro & Hughes, 1996, para. 5). Shapiro and Hughes draw a parallel between the dawn of *this* information age and the dawn of the *previous* information age represented by the Enlightenment era, when thinkers like Condorcet believed that knowledge would allow citizens to govern themselves rather than rely on the opinions or actions of the more learned. Democratization of education was one aspct of this project; at the same time, Shapiro and Hughes underscore Condorcet's emphasis on the need for scientific and logical thinking to develop simplified conceptual schemes for ease of instruction and learning. If knowledge could be condensed into simple, logical concepts, all would have access to the liberating scientific knowledge of the day. (Shapiro & Hughes, 1996).

Shapiro and Hughes outline a curriculum for information literacy, consisting of seven dimensions: tool literacy; resource literacy; social-structural literacy; research literacy; publishing literacy; emerging technology literacy; and critical literacy. These components of information literacy, they argue, constitute a new (for 1996) curricular framework:

> one that equips people not only with a bunch of technical skills but with a broad, integrated and critical perspective on the contemporary world of knowledge and information, including its origins and developmental trends, its redefinitions of experience and social life, its philosophical justification, biases and limits, its potential

> for human emancipation and human domination, and for growth and destruction. (Shapiro & Hughes, 1996, para. 26)

Noting that throughout the twentieth century we have had expectations for what general information a college graduate should possess (and they provide a remarkably culturally specific list) regardless of their major, Shapiro and Hughes argue that information literacy curricula should become part of our current expectations for college graduates, linking an information-literate citizenry to such longstanding American values as freedom and humanity:

> If the information society is to be a free and humane one—especially if we share the Enlightenment goals of abolishing unnecessary inequality and creating a society of liberty—then let us take up the challenge of Condorcet's vision. Let us contribute to liberty through advancing citizens' knowledge, through democratizing education. Let us design a comprehensive, multi-dimensional and thoughtful information literacy curriculum. (Shapiro and Hughes, 1996, para. 29).

For Shapiro and Hughes, then, information literacy, then, becomes a form of general education, a current-day source of those simplified concepts, applicable across subject disciplines, if not also the means of entry into more specific content knowledge.

Debates about the social and political importance of functional and other forms of literacy date back to the Enlightenment era, if not to the Reformation or even earlier. Influenced by Enlightenment thinkers, Thomas Jefferson and the Founding Fathers linked education and critical thinking skills to the health of the young American republic. The history of higher education in the United States has always turned on tensions between education for enlightened citizenship and education for vocational or career purposes, tensions still vocally expressed about and within the academy today. As Grafstein has noted, educational theorists have identified lifelong learning as a hallmark of liberal education over the course of the twentieth century (Grafstein, 2002, 2007). Higher education has long been charged with the task of "lifelong learning," a term more currently used in attempts to define the information literate person (see for example Snavely & Cooper, 1997; Shapiro and

Hughes, 1996). College and university mission statements and literature vibrate with language seeking to define and promote each institution's particular interpretation of the value of a college education. Even before the current downturn, colleges and universities faced increased calls for accountability, for proof that their "product," a college education, offers value to the students (and their families) who are paying tuition in order to receive this product. Shapiro and Hughes' emphasis on information literacy as a curricular imperative echo these concerns, implicitly suggesting that the skills and contextual understanding of information, ends in themselves, be recognized as the sign of an educated person, in addition to whatever specialized information the student may accumulate in his or her major courses (only minimally discussed by Shapiro and Hughes).

Building on Shapiro and Hughes' argument, in 2006 Bill Johnston and Sheila Webber argued that information literacy does in fact constitute a distinct discipline. Drawing on Vannevar Bush's influential 1945 article "As We May Think," Johnston and Webber define information as a "soft applied discipline," with broader social relevance; like Bush, Johnston and Webber see information literacy as a discipline falling within science and technology knowledge domains. Assessing higher education information literacy standards from the UK, Australia, and the United States (the ACRL Standards), Johnston and Webber argue for information literacy as an identity rather than a set of possessed skills or a mere personal attribute. Defining information literacy as "the adoption of appropriate information behaviour to identify, through whatever channel or medium, information well fitted to information needs, leading to wise and ethical use of information in society," (Johnston & Webber, 2003, as cited in Johnston & Webber, 2006, p. 113) Johnston and Webber argue that information literacy is essentially a socialized activity and not simply a personal need. As such, the goals of an information literacy curriculum must transcend mere abilities to seek, retrieve, and use information, toward broader social goals. For Johnston and Webber, these

goals are citizenship, economic growth, and employability, with the overarching theme of information literacy for personal growth/creativity (Johnston & Webber, 2006).

Like Shapiro and Hughes, Johnston and Webbers' outline of an information literacy curriculum stresses goals that fall into the category of "lifelong learning," often defined loosely as the ability to learn how to learn. Lifelong learning is a malleable concept, as applicable to vocational considerations (many professional fields required continuing education or, less formally, the ability to keep up with current literature and developments in the field) as it is to learning for pleasure or personal interest. Like Shapiro and Hughes, Johnston and Webber also identify citizenship as a key goal of information literacy, though they place more emphasis on social responsibility as an aspect of citizenship than do Shapiro and Hughes. Johnston and Webber's emphases on economic growth and employability also suggest vocational aspects to learning, both lifelong and academic: information literacy can provide skills that can be transferred into the workplace.

Unlike Shapiro and Hughes, however, Johnston and Webber focus more attention on the place of information literacy in the higher education curriculum. Drawing on Biglan and Becher's disciplinary taxonomy to identify information literacy as a "soft applied" discipline, Johnston and Webber note its similarities to librarianship and information science, but highlight its differences, describing information literacy in contrast to librarians' emphasis on assembling and managing collections and information scientists' emphasis on information retrieval and the development of retrieval tools, claiming that "information literacy is not concerned with the actual development of new tools from scratch, but rather how these tools might be applied by and enhanced for information-using people," adding that "there is [also] a focus on the context (personal, organizational, and societal) in which information is to be used," rather than on the collection or retrieval of that information (Johnston & Webber, 2006, p. 116). Information literacy is identified as essentially

interdisciplinary, building on theoretical and research approaches from such fields as sociology, psychology, management studies, and media/communication studies, differing from librarianship and information science in that it draws more heavily on educational theory and research approaches.

This interdisciplinary nature of information literacy as a discipline, however, has meant that information literacy has no clear home within the academy. As Johnston and Webber note, as the traditional single-subject degree model faces internal and external demands for evidence of cross-disciplinary skills, institutions of higher education have turned to information literacy as a means of addressing these concerns; Johnston and Webber fear, however, that the turn to curriculum-integrated information literacy instruction, undermines information literacy's tenuous identity as a discipline in its own right. The ACRL Standards explicitly call for students to master basic competencies while also stating that the student's chosen course of study will mean variations in emphasis on particular competencies; Johnston and Webber believe that this position undermines information literacy as a discipline by making it subordinate to other disciplines. Like Owusu-Ansah, they are resistant to curriculum-integrated instruction models. Unlike Owusu-Ansah, who is concerned with upholding academic librarians' authority based on their informational expertise, Johnston and Webber are more concerned with the separate disciplinary identity of information literacy and the primacy of the broader goals they have assigned to it; they are less concerned with identifying librarians as the primary practitioners of the discipline (Owusu-Ansah, 2007; Johnston & Webber 2006).

Indeed, Johnston and Webber seem opposed to discipline-based information literacy precisely because discipline-tailored instruction will not help students prepare students to meet the three goals they identify for information literacy—citizenship, economy, and employability. In other words, they are resistant to information literacy intended to further

students' knowledge of *other* disciplines, because such instruction would undermine the goals—and perhaps also the validity—of their own identified discipline. While Johnston and Webber make a strong case for information literacy as a distinct discipline capable of training students in cross-disciplinary general skills, the single-subject major remains a reality in many institutions, and the rise of interdisciplinary programs and degrees within higher education still implies a need for subject/content knowledge within interdisciplinary clusters. At the present time, disciplines and general education programs coexist within institutions of higher education; if information literacy is to gain credibility as a discipline, it (and its practitioners) will need to learn to play well with other disciplines and programs within existing and evolving curricular structures.

Also drawing heavily on Shapiro and Hughes' argument, Shilpa Shanbhag also argues for information literacy as a distinct discipline, though she is more critical about the biases she sees within this 'discipline.' Shanbhag sees information literacy pedagogy as too attached to an academic model of knowledge production which does not acknowledge knowledge production from other sources, especially those available through emerging technology, which students are quickly encountering. Shanbhag calls for a more postmodern theory of knowledge, where knowledge from multiple sources could be used to open up the definition of knowledge and to raise questions about power and knowledge production. Shanbhag is right to note that such a theory offers the ability to talk about information inequity, a topic that often gets lost in the rhetoric celebrating democratic access to information via the Internet and other technologically advanced sources. Influenced by Van der Linde's network and narrative models, Shanbhag argues that these more fluid models offer a more playful, engaging, and inclusive approach to information literacy, one which she believes could counteract the field's current emphasis on usefulness and marketability—an analysis which

sharply contradicts Johnston and Webber's emphases on economic growth and marketability as key goals of information literacy (Shanbhag, 2006).

Interestingly, the alternative models of knowledge Shanbhag points to tend to be more readily identified with the humanities than with the sciences. Shanbhag quotes Van der Linde quoting Jankelevitch as calling for an approach "not directed towards providing answers and solving problems, but towards raising questions and generating new problems." (as cited in Shanbag, 2006, para. 14) Shanbhag notes that this stance aligns with critical pedagogy drawing on feminism, postcolonialism, Marxism, and the discourse theories of Said, Gramsci, and Foucault, adding that the more staid scientific/social-scientific methodology of information literacy does not even reflect developments in the sciences. Shanbhag suggests but does not make explicit that methodological developments in the *humanities*—many of which were deeply affected by the critical movements she lists during the last decade or two of the twentieth century and which continue to be shaped by those movements—can be used to make information literacy methodology more playful, more inclusive, and more relevant. Although she does not address disciplinary differences explicitly, her incorporation of methodological trends rooted in the humanities highlights the scientific/social-scientific bias of Shapiro and Hughes' and Johnston and Webber's models. Information seeking, retrieval, and use processes in the humanities can be far less linear than is presumed for the sciences; at the same time, as Shanbhag implies, humanities-based information-seeking and -processing models can suggest new approaches to information literacy (Shapiro & Hughes, 1996; Johnston & Webber, 2006; Shanbhag, 2006).

These multiple identifications of information as a discipline tend to emphasize theory and skills that can be applied across curricular or disciplinary lines. This assumption suggests that information literacy skills are in fact applicable across disciplines, and can in fact be distilled down to a set of skills distinct from the specific informational needs of any

given discipline. Though Johnston and Webber are careful to define information literacy through a particular social-science taxonomy of disciplinary identity, they express concern that information literacy does not have a disciplinary home within the current higher education structure. Johnston and Webber seem to want a distinct institutional home beyond the library. Shapiro and Hughes locate information literacy, more generally, within the educational system. Owusu-Ansah and Shanbhag (implicitly) locate information literacy more readily within the library. Writing within the realm of theory, all propose high-minded, open-ended goals for information literacy, calling on it to democratize education, create an informed citizenry, enhance employability and economic growth, and encourage creative and critical thought patterns.

For these and other theorists, the goals of information literacy necessarily extend beyond higher education to broader goals: lifelong learning, educated citizens, and enhanced employability, among others. Discipline-based information literacy would seem to counteract or contradict those goals, being apparently limited to knowledge of a particular discipline. Though arguably a tailoring of general skills into the "container" of a particular discipline may not seem immediately relevant to goals as broad and vaguely defined as "citizenship," "lifelong learning," or social responsibility, Johnston and Webber's argument for employability as one of the primary goals of information literacy does raise the question of whether a student's discipline can or should prepare the student for employment. Some disciplines are more vocationally oriented than others; some disciplines are loosely linked with vocational or professional education (think of a history major or a political science major going into law); some disciplines are not as clearly linked to career objectives (English majors, for example). All of these disciplines involve learning how to think and how to learn within a particular disciplinary framework. Perhaps, to return to the ACRL Standards, another way to link discipline-based information literacy approaches to lifelong learning

would be to stress that information is generally shaped by discipline, and that learning how to learn a discipline can offer insight in learning how to learn another discipline (the links between learning how to handle and interpret historical evidence and learning the significance of precedents in law, for example).

At the same time, while the overarching goals assigned to information literacy are crucial and admirable goals, there are more immediate goals that also need to be met within the academy. Students—and faculty as well, at a different level—need to complete assignments. However resistant we may be toward information literacy being treated as a path to more immediate or concrete goals, the truth is that in the real world, students-turned-adults will be called on to produce and finish things. To gather information, to manipulate it, to comprehend it, are all valuable and necessary skills. But so is getting the report written. And we must take care to help students reach finishing points, to determine when they have enough information, to let them know that there needs to be an "enough" point and that they need to know when they've reached "enough" and when they haven't. A distinction does need to be made between process and product, if only for the reason that the student—and indeed the faculty member and even the librarian—is called upon, ultimately, to create a product. One cannot remain bathed in the warm flow of information forever: eventually the paper is due, the conference paper or lecture must be written and delivered, the report or rubric must be written. At some point, the information must be managed, worked on/with, assimilated, and synthesized. Ultimately, something must be made. And whether or not the ACRL Standards fail to recognize information literacy as a discipline in its own right, they do include standards and performance indicators—particular under Standards 3 and 4—geared toward helping students reach those lower-level goals, on the road to achieving those less tangible goals. And ultimately, disciplinary needs—even if the project is interdisciplinary—will structure both the product and its assessment.

Chapter 5: The Subject Specialist and Discipline-Based Information Literacy

In his 2005 description of the North-East Research Consortium's BYTES (Books You Teach Every Semester) project, Mike Stoller called for a restructuring of the role of the traditional subject specialist, arguing that such librarians are in a unique position to gather and interpret data from the academic library's users, discussed by Stoller in discipline-based terms:

> We need to sit down with a group of historians and talk about how they do their research, about what sort of collections will best serve their interests. We must do the same with literary scholars, philosophers, physicists, chemists, and sociologists. We need to use the survey and the focus group to develop clear pictures of these specific communities. (Stoller, 2005, p. 6)

Stressing that he was not calling for an old-school selector, focused on review lists and vendor offer slips, Stoller instead argued for a librarian who also possessed academic subject training, one engaged in reference, instruction, and strong liaison activity with faculty and students in a particular discipline or disciplines; Stoller noted with some dismay that "if librarians are increasingly hard to find, those with the subject expertise and the social skills to push their way in to the center of a university's intellectual life are scarce as hen's teeth." (Stoller, 2005, p. 7) Though Stoller is speaking about the role this kind of subject specialist could play in academic collection management, his scarce-as-hen's-teeth kind of subject specialist could also play a similar role in information literacy instruction and assessment, particularly in discipline-based information literacy.

The ALA Glossary has defined the subject specialist as:

> A library staff member with superior knowledge of a subject or discipline, with responsibilities for the selection and evaluation of the library's materials in the subject area and sometimes with the added responsibilities of information service in the subject area and the bibliographic organization of the materials. (*ALA Glossary*, 1983, p. 220)

Traditionally, subject specialists, who can be assigned a range of titles, have primarily been responsible for collection development and management. Liaison work, involving communication with subject faculty and departments about collection and related issues, is often a key aspect of the subject specialist's work, and it is the subject specialist's role as liaison that opens the door to "information service" or instruction in the specialist's subject area.

Though there is a body of literature on the changing role of the subject specialist in the academic library, the subject specialist appears less frequently in literature on information literacy. Librarians' subject knowledge is briefly discussed in Kate Manuel et al.'s study of faculty motivation for incorporating library instruction into their courses, Kate Manuel et al. found faculty appreciative of librarians with subject knowledge (and in at least one case, derisive of librarians who didn't have it, with one commenting on a librarian's lack of knowledge about Russia in relation to a particular assignment) or blaming themselves for not getting a librarian up to speed on subject content. Manuel et al. note that in only one case of favorable subject knowledge response did the librarian have a subject graduate degree; they do not discuss whether faculty had to prepare non-subject-degree librarians, though to the reader it does seem that some of the complaints could have been resolved if the librarian had demonstrated stronger subject or discipline-based knowledge (i.e. knowing how to learn more about Russia). However, in the context of Manuel's article, the intent is to demonstrate that one does not need to have a subject graduate degree to effectively teach subject-based library instruction (Manuel et al., 2005). Interestingly, Kautto and Talja, who argue strongly for discipline-based information literacy instruction, recommend that such information literacy take place within the subject department, and do not consider the possibility that a subject specialist librarian might be well-placed for such teaching (Kautto & Talja, 2007).

As Grafstein has pointed out, the literature on information literacy tends to convey the message that "because the *content* of disciplines is constantly changing, subject content cannot be taught effectively; therefore, teaching should focus on *process*." (Grafstein, 2002, p. 200) Interestingly, such a stance subtly undermines the value of subject knowledge for all involved—student, faculty member, even the librarian—while also devaluing the faculty's necessary engagement with content knowledge in order to function effectively within the academy (a necessity acknowledged, although somewhat backhandedly, by Leckie in her 1996 description of the "expert researcher" mode of research behavior). Grafstein notes that this emphasis on process over content may reflect librarians' training as information specialists more than as subject specialists. Indeed, the subject specialist's blending of subject knowledge with informational expertise complicates the sharp distinctions between generic and discipline-based skills drawn by Grafstein, Stanger, and Owusu-Ansah, among others (Grafstein, 2002; Stanger, 2009: Owusu-Ansah, 2003, 2004, 2007).

Theorists and librarians continue to debate over whether the subject specialist librarian can play a valuable role in the academic library; at the 2005 ALA Annual Conference, the ACRL's Anthropology & Sociology Section offered a panel session titled "Are Subject Librarians an Endangered Species?" (Bonnami et al., 2006). Technological advances and increased access by users to electronically available information are key factors in the threatened demise of the subject librarian. As Margaret Feetham has noted in her overview of the literature on subject specialists (focused heavily on developments in the UK), electronic databases and indexes capable of delivering full-text materials directly to users and the rise of electronic tools and consortial arrangements for collection development are key factors in the threatened demise of the subject specialist (Feetham, 2006). Stephen Pinfield opens his defense of the subject specialist by quoting Richard Heseltine's 1996 conclusion that the growing role of technology and electronic delivery would create, within

the academic library, "an organizational structure… which is based on functionally-based collaborating teams" which would eliminate what Heseltine called "the generic nature of subject librarianship" (apparently meaning "generic" as a reference to subject librarianship as a specific genre of librarianship) (as cited in Pinfield, 2001, p. 32). While Heseltine and others see the rise of functionality rather than content/subject as the eventual organizing principle for the library as the end of the subject specialist's role, Pinfield and others have argued, instead, for the evolution of the subject specialist, stressing the subject specialist's liaison responsibilities to faculty and students, collection advocacy and outreach, reference (traditional and virtual), e-resource selection, information literacy, and participation in digital library development, especially for subject- or area-specific digital library projects. (Pinfield, 2001; Feldmann, 2006, Feetham, 2006, Glynn & Wu, 2003; Bodi & Maier-O'Shea, 2005).

Pinfield outlines a list of desirable skills for a subject librarian which encompass a more public-services approach, building on the specialist's traditional collection role: subject expertise, people skills, communication skills, technical/IT skills, presentation and teaching skills, financial management skills, analytical and evaluative skills, team-working and team-building skills, project management skills, flexibility, ability to learn quickly, and vision (Pinfield, 2001, p. 37). Pinfield concludes by noting that:

> What is crucial is that the subject librarian has an appreciation of teaching and research techniques in those subjects, in the structure of the literature, and in key terminology and concepts. A first degree in a related discipline is an advantage but not always essential. … [E]xperience shows that if the subject librarian has the [recommended] skills… (particularly flexibility and ability to learn quickly) he or she can normally carry out the role effectively. (Pinfield, 2001, p. 38).

Like Stoller, Pinfield identifies public services work as a logical field of expansion for the subject specialist. Stoller's overall argument, that the BYTES program revealed, rather than a uniformity of assigned and reserve texts, the unpredictable and highly idiosyncratic nature of teaching, and the necessity for collection librarians to work closely with faculty and students

to determine their needs, moves the subject specialist out of an acquisitions role and into a more proactive and communicative liaison role: precisely the role called for by the literature discussing faculty-librarian collaborations toward information literacy.

Like Pinfield and Stoller, Gloria Feldmann stresses both the subject knowledge and interpersonal skills possessed by the subject specialist, stating that "subject librarians have in-depth subject knowledge, teaching skills, people skills, and negotiating skills; talents that are valuable and could continue to be essential in the foreseeable future." (Feldmann, 2006, para. 1). At a time when electronic aggregators and approval plans would seem to be eroding subject specialists' traditional responsibilities, subject specialists' understanding of subject content and disciplinary conventions give them particularly strong abilities to communicate with faculty and students, to function as guides to subject information now available in a range of formats. Indeed, Vanessa Chavez has noted that the rise of virtual reference represents an opportunity for greater patron access to subject specialists. Feldmann suggests that the subject specialist, far from being rendered obsolete by technological developments, could instead help to put a human face on these developments, intervening in the human-computer interactions to which Eino Sierpe fears librarianship, and library patrons, have fallen victim. (Feldmann, 2006; Welch, 2002; Chavez, 2005; Sierpe 2004).

The model of subject specialisthood promoted by Stoller, Feldmann, Pinfield, and others stresses the *liaison* role of the subject specialist, whose knowledge of the research and pedagogical methods as well as content knowledge makes them a logical *instructional* liaison and collaborator with the instructor—not simply for collection purposes, but as a collaborator in information literacy instruction. In her critique of Edward Owusu-Ansah's call for librarians to demand to teach credit-based information literacy courses, Diane Zabel identifies herself as a subject specialist who routinely provides course-related and course-integrated instruction for business courses, noting that in her experience, business teaching

faculty were not providing students with appropriate information about using secondary data. A model of information literacy instruction which identifies information literacy as a distinct or discrete area of thought, Zabel argues, works against the meshing of library and subject instruction that she regularly engages in as part of her role as subject specialist; information literacy is intimately related not only to disciplines, but also to students' progress through their academic careers, including both their general education requirements and their progress through their declared major or majors (Zabel, 2004).

Nevertheless, the distinction between librarians as information specialists and faculty as subject specialists continues to shape discussions of information literacy in higher education. This division echoed in discussions of generic-skills information literacy, relationships between faculty and librarians, and in discussions of information literacy as a distinct discipline. Interestingly, if information literacy is identified as its own discipline, then arguably instruction librarians could be identified as subject specialists with expertise in that discipline (although, again, Johnston and Webber, since their focus seems to be more on information literacy research than on practical applications, they do not explicitly identify librarians as the sole practitioners of information literacy, instead arguing for a place for information literacy in the academy alongside other academic departments). But, since the subject content of information literacy as a discipline remains loosely defined and, as Johnston and Webber themselves note, decentered, the meaning of subject specialisthood for information literacy as a subject seems somewhat indeterminate (Grafstein 2002; Johnston & Webber 2006).

The fraught nature of relationships between faculty and librarians described above place the subject specialist, particular one holding an advanced subject degree, in a potentially tricky position. Beginning in 2003, Todd Gilman, an English subject librarian at Yale University, published a series of articles in the *Chronicle of Higher Education* discussing

academic librarianship as a career for PhDs. his entry into librarianship with a PhD in English. The first article, focusing on his particular experience of transitioning from an academic career to one in academic librarianship, was followed by several in 2004 counseling PhDs on preparing for an academic library career, recommending academic librarianship as a career for humanities. These were followed by two articles by Gilman noting resistance among librarians to PhDs and strenuously recommending that PhDs aspiring to librarianship pursue an MLS degree; in 2008 Gilman published a darker article offering anecdotal evidence of university librarians choosing to hire younger, less experienced MLS graduates over those with advanced degrees. If this is not simply an anecdotal phenomenon, it is difficult not to see such preferences as an echo of the tensions and disconnects between librarians and subject faculty mentioned above (Gilman, 2003, 2004a, 2004b, 2005a, 2005b, 2008). The ACRL will host an OnPoint chat on "PhDs in Academic Libraries: The Role of the Scholar-Librarian" in September 2009, and it will be interesting to see how the panel (which Gilman is not on) address this issue ("ACRL OnPoint," 2009)

Gilman's 2008 article suggests that the tense relationships described by Given and Julien and others between faculty and librarians place the librarian with advanced subject knowledge in a difficult position. Earning an advanced degree places the graduate student into the faculty culture described by Hardesty, Jenkins, and others (although I would argue that the current job shortage has forced more graduate students to emphasize teaching over research; in spite of the fact that the tenure system still tends to reward research over teaching, the jobs that are available tend to require considerable evidence of engagement in teaching) (Hardesty, 1995; Jenkins, 2005; Manuel et al., 2005). A popular career guide for MAs and PhDs looking to move beyond the academy argues that leaving academia is like leaving a cult (Basalla & Debelius, 2007). Missing from the accounts of faculty culture discussed here is an awareness of the perennially difficult job market for academic faculty

and the fact that there are PhDs who are choosing to leave academia not simply because of the extremely competitive and limited job market, but because they are frustrated with aspects of faculty and/or administrative culture and eager to find other avenues for their skills and interests. Gilman's own experiences, as described in his *Chronicle* columns, are part of a growing discourse on alternative careers for advanced degree holders. Gilman's description of the pushback he's received from some librarians resistant to PhDs pursuing library work echoes some librarians' resistance to faculty: trained to be faculty, PhDs leaving the academy for librarianship may be seen as attempting to colonize librarianship without bothering to understand the differences between academic librarianship and academic faculty work (Gilman, 2005a).

At the same time, a subject specialist with an advanced degree can also serve as a kind of translator between faculty and library. Subject graduate school is where a nascent faculty member is expected to master the "expert researcher" mentality described by Leckie (Leckie, 1996). As a result, in addition to having an in-depth knowledge of disciplinary subject knowledge and conventions, the subject specialist possessing an advanced degree may also have a deeper understanding of faculty culture and be able to communicate with faculty in that language, so to speak (see for example Toft, 2004). A subject specialist, who is more likely to have experienced acculturation into faculty culture, may also be able to address informational and subject insecurities that can felt (if not always clearly expressed) by faculty and graduate students, who are often steeped in a peer culture that militates against admitting uncertainty or ignorance. Additionally, if, as Given & Julien have argued, some faculty may not see librarians as their equals because of perceived differences between doctoral training and masters'-level study, a subject specialist with advanced subject training may be able to bridge that perceived gap (Given & Julien 2005).

Chapter 6: Practicalities: Sources for Discipline-Based Information Literacy

As noted, information literacy theorists have tended to separate generic and discipline-based information literacy skills and approaches based on the librarian's expertise in generic skills and relative lack of subject knowledge, assigned to the faculty member. The subject specialist, in his or her role as liaison, is seen also as a logical source of discipline-based information literacy instruction; yet, this would seem to confound the binaristic separation of generic from discipline-based skills. In practice, from the perspective of the student, this separation may seen unrealistic and arbitrary, as the student attempts to determine who to approach for what kind of help. Discussions of information literacy programs, calling for tailoring of generic programs to the specific needs of a campus' faculty and students, inevitably blur those lines. In their analysis of science faculty's impressions of discipline-specific information literacy, Leckie and Fullerton state that:

> A library research instructional program will not succeed if it is kept generic. Librarians involved in instructional activities must come to know individual disciplines, departments, and programs because all have slightly different expectations and needs. Instruction must be strongly course related. (Leckie & Fullerton, 1999, p. 27)

Taken with Anita Cannon's similar study of faculty attitudes towards the humanities (on which Leckie and Fullerton's study was modeled), Leckie and Fullerton's analysis underscores disciplinary information literacy differences within the sciences and in relation to information literacy needs and practices in the arts, humanities, and social sciences (Cannon, 1994; Leckie & Fullerton, 1999).

Dorothy Warner's extended case study A Disciplinary Blueprint for the Assessment of Information Literacy (2008) is an excellent example of discipline-based information literacy in practice. Working with librarians, faculty, and administrative staff, Warner

reviewed the curriculum for each discipline at Rider University, working with course syllabi, the university course catalog, proposed teaching schedules obtained from the relevant deans' offices, and lists of courses and professors that had received library instruction during the previous three years. Collating these materials, Warner developed curriculum maps for each major, tracking the path a student is expected to take to complete a degree in each major. Warner's maps take into account the timeframe and proposed year-by-year progress for students in these majors, noting the particular informational needs experienced by students in each year of a given major. The curriculum maps were then adapted, for each liaison librarian, into library curriculum maps, providing each librarian with an overview of each department's requirements, and allowing each librarian to determine where library instruction had taken place, and where opportunities existed for continued or new library instruction partnerships. Warner also includes assessment outcomes and rubrics for each major. Stating explicitly that the curriculum maps are intended as outlines or skeletons for subject bibliographers to build on, Warner notes that while Rider's information literacy program had previously focused on elective courses, the curriculum maps were intended to refocus attention on required courses, thus shifting the focus of the information literacy program slightly (Warner, 2008).

Disciplinary Blueprint offers case studies of curriculum maps and related information literacy and assessment proposals for six majors at Rider University. The proposals are based not simply on internal needs, as determined through the curriculum map development process, but also on surveys of best practices for information literacy within the given disciplines. Not a comprehensive study of departments and majors at Rider University—the majority of the programs are in the social sciences, with, importantly, one example of an interdisciplinary program (Film Studies)—the curriculum mapping and related instructional and assessment approaches could be extended to other fields and areas of study. An overall

point of Warner's, significantly, is of the necessity of working closely with the faculty and administrative staff of the departments or programs in order to understand the arc of each major and to assess students' (and faculty members') instructional and informational needs at the various course level. Warner's work provides fascinating—and necessary—insight into how a sampling of majors are constructed, and how those maps allow librarians to see opportunities for collaborative instruction at both the generic and discipline-specific levels. (Warner, 2008)

In his 2007 presentation at the LOEX Conference, Warner's colleague John Buschmann stated:

> [Librarians are] well-equipped to think about curriculum. We have undergraduate and graduate degrees. Via our teaching and public services, we have a unique perspective on the whole curriculum. Our graduate degree in library science has taught us the structure of the literatures of many disciplines. We interact with students at a unique point: the intersection between what they are taught and what they are then expected to apply and teach themselves, and, we hope, their intellectual curiosity.
>
> Librarians—irrespective of their particular campus status—are involved in the academic enterprise. Learn that, engage it, and you will be ready to have an impact on your campus. (as cited in Warner, 2008, p. 2)

Not every graduate program in library and information science necessarily trains its graduates the structures of disciplinary literatures; however, librarians are trained to think in terms of organizational structures. Subject knowledge is organized in particular ways according to discipline (to reiterate Standard 1, Outcome 2b of the ACRL Standards). If subject specialists bring a more extensive knowledge of those structures and literatures, non-subject-specialist librarians are capable of learning the basic structure of disciplines as well—certainly a subject specialist responsible for multiple departments or interdisciplinary programs will find themselves needing to get up to speed on disciplines that fall outside of their subject training. Glynn and Wu have suggested that subject specialists work with all

reference staff to inform them of new developments in their disciplines, a proposition that makes sense across the board—if I am a humanities librarian working a regular shift at the reference desk, I will surely benefit from having a good working knowledge of business or science sources provided by a specialist in these areas (Glynn & Wu, 2003). Stephen Plum's brief outline of the resources needed by students to understand a particular discipline could easily be used by a librarian as a means of surveying the intellectual underpinnings of a discipline or disciplines; Johnston and Webber's outline of the traits of a discipline, applied to information literacy, offers another useful taxonomy for similar purposes (Plum, 1986; Johnston & Webber, 2003). Kautto and Talja's study, with its discussion of disciplinary socialization processes and needs in four disciplines, could also serve a similar purpose, as could articles like East's and Simpson's which outline information literacy instructional approaches for graduate students in various fields (Kautto & Talja, 2007; East, 2005; Simpson, 1998).

As part of Neal-Schuman's Information Literacy Sourcebooks series, Patrick Ragains has edited the volume *Information Literacy Instruction That Works: A Guide to Teaching by Discipline and Student Population* (2006). Divided into four section and containing a companion CD-ROM of related documents, this sourcebook offers practical advice and sources for information literacy issues related to specific campus populations (with a chapter on relationship-building with faculty), including first-year students, community college students, students with disabilities, and distance learning students. Another section focuses on teaching special topics, including legal research for non-law students, government information research, and patent research. The third section deals specifically with teaching information literacy in specific disciplines, with chapters on English literature, art and art history, film studies, history, psychology, science, agricultural sciences and natural resources, hospitality and gaming, and international marketing paired with web delivery. Each chapter

offers overviews of disciplinary issues, faculty and student needs, and relevant sources; significantly, each chapter is structured differently, and the organization of each chapter suggest questions that might be productively raised by the instructional librarian about other disciplines (unlike some of the other chapters, the art and art history chapter provides a sample lesson plan, which could serve as the beginning point for a template for another discipline). The chapters also include bibliographies for further reading, providing the instruction librarian with a path into the relevant literature, both in the LIS field and into the discipline's literature as well. Each of these chapters was written by a librarian with extensive teaching experience in the discipline covered, many but not all of who have subject graduate degrees. Ragains' sourcebook is an excellent example of the subject specialist's role in information literacy—not simply as an instructor of patrons, but also as a guide for other librarians (Ragains, ed., 2006).

Ragains also directs readers to the ACRL Instruction Section's relatively new initiative, its committee on Information Literacy in the Disciplines. The Committee has created a webpage within the ACRL website which includes citations and, where available, links to information literacy standards and curricula for a range of disciplines. Drawing on the National Center for Education Statistics' 2000 edition of *The Classification of Instructional Programs*, the Committee offers discipline standard information from five major categories (Arts and Humanities, Cultural Studies, Professional Studies, Science and Engineering, and Social Studies) with a sixth category including regional accreditation statements. The Cultural Studies section heavily emphasizes interdisciplinary and area-studies majors, with the others focused on more traditional majors. Each discipline's subsection includes a discussion of and links to guidelines or other standards drawn from accrediting agencies and professional associations, providing a sense of what members of the selected discipline have identified as their key competencies and desired outcomes; each subsection also includes citations and

links to useful curricula, articles, and presentations for the discipline. Committee members have developed this webpage by communicating with accrediting agencies, and conducting literature and web searches. This ambitious project is still a work in progress, with some disciplines better documented than others, but is nevertheless a useful starting point. The Information Literacy in the Disciplines' website includes an ongoing call for additional materials, to be submitted to the Committee Chair; the website is intended to be updated annual prior to the ALA's Annual Conference (ACRL "Information Literacy in the Disciplines," 2009).

Included in the Information Literacy in the Disciplines' website are various sets of information literacy standards developed by committees or organizations affiliated with ACRL. In 2006 the ACRL Board of Directors approved "Tip Sheet 4: Developing Subject-Specific Information Literacy Standards," to be maintained by the ACRL's Information Literacy Advisory Committee, as a means of streamlining ACRL units' development of subject-specific information literacy standards, including those developed with the assistance of an Information Literacy Consultant (ACRL "Tip Sheet 4"). The development and approval of such standards, which must correspond to the ACRL Standards (2000), are subject to the review of the Information Literacy Advisory Committee, and the approved versions can be published and/or announced in a variety of locations, including the unit's website, the ACRL's Standards and Guidelines web page, *College and Research Libraries News*, submission to the Information Literacy in the Disciplines' website, and/or publication in other relevant professional organizations' organs. Current examples of such subject-specific standards include:

- *Information Literacy Standards for Anthropology and Sociology Students*, developed by the ACRL Anthropology and Sociology Section and the Instruction and Information Literacy Committee Task Force on IL Standards

- *Information Literacy Standards for Science and Engineering/Technology*, developed by the STS Task Force on Information Literacy for Science and Technology

- *Research Competency Guidelines for Literatures in English*, developed by the ACRL Literatures in English Section

- *Information Competencies for Social Work Students*, developed by the ACRL Education and Behavioral Sciences Section Social Work/Social Welfare Committee.

- *Political Science Research Competency Guidelines Draft*, developed by the ACRL Law & Political Science Section Education Task Force, and cited in the *Information Literacy Standards for Anthropology and Sociology Students* (the author was unable to find these guidelines online)

- *Information Literacy Instructional Objectives for Undergraduate Music Students*, developed by the Music Library Association's Bibliographic Instruction Subcommittee (Cary & Sampsel, 2006)

Chapter 7: Conclusion

In 2004, Zoë Toft, a young linguistics professor at the University of London published a short piece in *Library + Information Update*, offering anecdotal evidence of her successful collaboration with a librarian in the use of a VLE (virtual learning environment, or course website) in one of her courses. Describing the experience favorably, Toft noted that the librarian she had worked with specialized in electronic resources but was not a subject librarian, adding: "While a librarian may have expert knowledge of general resources, I believe that more often than not, primarily, academics want specialist knowledge. Even training in general skills, such as how to evaluate a website, will be much more appealing if it is subject-focused." (Toft, 2004, p. 43). Speaking from the point of a view of a faculty member, Toft highlights the role of subject knowledge in faculty-librarian collaboration; her quote also underscores a key issue of this paper: whether general information-literacy skills can, or should, be separated from subject- or discipline-specific skills, or whether productive relationships can exist between the skill sets.

The title of this paper is taken from Ann Grafstein's assertion that people are necessarily "literate *about something*," suggesting that skills should used on an object of study, rather than be developed as ends in themselves. Nevertheless, Grafstein separates general information-literacy skills from discipline-specific skills, assigning general skills to the librarian and subject-specific skills to subject faculty, a distinction that risks obscuring the graduated nature of information skills and the continuing need for interaction between general and subject-specific skills as the student progresses through their academic career (Grafstein, 2002).

Some, like Johnston and Webber and Owusu-Ansah, have argued that general skills are in fact distinct from subject-specific skills, and that, consequently, information literacy

can be seen as its own distinct discipline. Owusu-Ansah calls for librarians to empower themselves by resisting taking a one-down role in collaborating with faculty and, instead, claiming this discipline as their territory and pushing to teach for-credit courses on their campuses. Diane Zabel has argued against this model, suggesting that it risks isolating information literacy from the curriculum and can preclude successful collaboration between faculty and librarians. Collaboration between faculty and librarians, a much-discussed issue, frequently requires librarians to take active roles in reaching out to faculty; Owusu-Ansah's model does have the advantage of removing librarians from an "active" position that can also feel disempowering if faculty are unwilling to collaborate, or do not see librarians as equal partners (Johnston & Webber, 2006; Owusu-Ansah 2003, 2004, 2007; Zabel, 2004).

Subject knowledge, and by extension, subject specialists who possess extensive subject knowledge, are, subtly, points of contention in this discussion. As Grafstein and Stanger have noted, librarians typically do not have subject training, a point which supports their arguments in favor of librarians supporting general skills and leaving subject-based skills to the faculty. But subject specialists traditionally do have advanced subject training; yet, since subject specialists traditionally have been associated with collection development, their presence in the literature on information literacy is limited. Nevertheless, the increased emphasis on liaison work and "people skills" for the subject specialist makes them logical partners for faculty in the area of discipline-specific information literacy instruction: Toft's expressed preference for a specialist librarian to teach a faculty member even more general skills suggests that a faculty member, trained by graduate-school and faculty culture to avoid admitting weakness or lack of knowledge, may be more willing to accept assistance from a librarian who shares their subject knowledge and can frame the instruction in familiar terms. (The author can offer her own anecdotal evidence for this preference, remembering well her delight at discovering *Digital History* (2006), written by digital historians Daniel Cohen and

Roy Rosenzweig to explain digitization projects and issues to historians [Cohen & Rosenzweig, 2006]). Taken with Toft's statement, Gloria Leckie's suggestion that the librarian act as an information literacy mentor to faculty offers another potential role for the subject specialist, who may be well placed to assist client faculty with both general and discipline-specific information literacy approaches and support. A tiered model, with instruction librarians focusing on general skills and subject specialists focusing on discipline-specific skills, might be an option for academic libraries with the appropriate staffing (Grafstein, 2002; Stanger, 2009; Toft, 2004; Leckie, 1996).

Such a model, however, with librarians assigned to discrete sets of skills, continues to imply the separation of general and discipline-based skills. I began this conclusion with Toft's comment because it seems to collapse the two, with an emphasis on discipline: disciplinary context shapes the informational need to such an extent that even general skills are flavored by this specific need. While a faculty member's needs are, almost by definition, highly structured by discipline, the reality is that a student's needs, over the course of his or her academic career, will be increasingly structured by departmental or disciplinary needs. In such a context, the distinction of general versus discipline-specific may seem less relevant than a more hands-on assessment of how institutions' departments, disciplines, and major curricula actually are structuring students' paths through higher education, particularly in relation to general education programs. Dorothy Warner's *Disciplinary Blueprint* is an excellent example of such an assessment, and offers a valuable blueprint for instructional and/or subject librarians at other institutions. Each institution of higher education will have its own patterns of need and opportunities for instruction; librarians will need to assess opportunities for instruction and for collaboration according to the needs of their own institutions and clients. The distinction between general and discipline-based skills will, for

each institution, relate to the specific missions, needs, and priorities of the institution's communities (Toft, 2004; Warner, 2008).

The ACRL Standards, broad and potentially extending into academic communities beyond the library (which have pedagogical and administrative agendas of their own), can help librarians to create bridges between librarian, faculty, and administrators. The balance between general and discipline-specific skills, outcomes, and indicators in the Standards reflects the multifarious patterns and combinations of the two present in any course of education (*Information literacy competency standards*, 2000; Manuel, 2004). Nevertheless, it is arguable that the Standards themselves are too wide-reaching and open-ended to themselves guide policy-making: their value lies in their adaptability to an institution's particular needs, with communities within the institution responsibility for working through the best means of adapting them. In another context, Shilpa Shanbhag has noted the value of modifying the more rigid, scientific/social-scientific model of information literacy to a more playful model, one capable of encouraging students to ask new questions in order to arrive at new answers (Shanbhag 2006). Including language supportive of both general and discipline-based skills, I would argue that the ACRL Standards can function as a communicative tool, its projected outcomes and indicators as potential conversation starters for collaboration between faculty, librarians, and administrators—viewed as a guide, a source of questions which could lead to exciting new answers about a given academic community's general and discipline-based informational needs.

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Vita

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