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Do We Speak the Same Language? A Study of Faculty Perceptions of Information Literacy

Jonathan Cope and Jesús E. Sanabria

abstract: The authors analyze twenty in-depth interviews with faculty members about how they perceive information literacy (IL) to examine two key factors: how disciplinary background influences conceptions of IL among faculty members in academic departments and how the instructors' perception of information literacy differs from that of professionals in library and information science. The investigators analyzed these interviews by utilizing a phenomenological method. The faculty members were interviewed at a four-year college, the College of Staten Island, and at a community college, the Bronx Community College, both part of the City University of New York.

Introduction

Information literacy (IL) has been a part of academic discourse since 1973, becoming more prominent in the 1990s as the ubiquity of the Internet and associated communications technologies compelled librarians and academics to rethink the nature of information and college research.¹ Since the 1990s, IL has become an explicit part of the educational goals and curricula of many colleges and accreditation agencies. In North America, library professional organizations such as the Association of College and Research Libraries (ACRL) have played a key role in the development of information literacy standards that have been used by many academic libraries to develop policies for the evaluation of IL skills and competencies.² Given the continually changing nature of contemporary information systems, IL will likely remain a key conceptual skill to which colleges and universities of all types will devote time, attention, and resources.

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However, despite the importance of IL for many programs and disciplines, the vast majority of the academic literature on the topic has been written from within the discipline of library and information science (LIS).³

An emerging literature has complicated the notion that IL is a set of universally applicable skills that can be taught divorced from an engagement in disciplinary contexts and practices.⁴ For these intellectual developments to bear fruit, a more expansive and

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nuanced understanding of how faculty in academic departments perceive information literacy is a crucial step in the development of institutional IL programs and curricula. (Future references to faculty, instructors, or professors in this article may be assumed to mean faculty from academic departments outside the library.) This knowledge will also foster better communication between practitioners of

IL in LIS and faculty in other academic fields. To this end, the authors of this paper conducted in-depth spoken interviews with twenty teaching faculty with the goal of analyzing two key things: how disciplinary background influences faculty members' conceptions of information literacy, and how their perceptions of IL differ from those of LIS practitioners. The faculty members were interviewed at a four-year college, the College of Staten Island, and at a community college, Bronx Community College, both part of the City University of New York, during the 2012–2013 academic year.

At the outset, the investigators hypothesized that academic disciplinary specialization will heavily influence faculty conceptions of information literacy, the manner in which instructors discuss information literacy, and the ways in which they measure IL competency in student work. The authors also theorized that faculty members would have different ways of talking about information literacy from practitioners within the LIS community. The interviews revealed that the applied needs of specific subjects, course-specific pedagogical goals, institutional circumstances, and the needs of specific students were more important than disciplinary training when discussing IL. The authors found that the faculty articulated a conception of information literacy that differed from that of LIS practitioners primarily in that instructors in other academic fields viewed IL as practices embedded in their disciplines. Although they talked about information literacy in ways that resonate with the conversations within LIS, it was impossible to disentangle their discussions of IL from their perspectives on pedagogy and higher education more generally. The investigators determined that the faculty's comments about the application of information literacy within their specific disciplines could be separated into three distinct themes, an *empirical* theme, a *contextual* theme, and a *textual* theme, in terms of how IL skills are developed and applied. For the sake of analytical specificity, the authors have developed these themes as a potential way for IL practitioners in libraries to think about how faculty members embed conceptions of information literacy within their specific disciplinary frameworks and how they might be approached when discussing IL collaborations.

Literature Review

Library professionals working within the LIS discipline have developed the majority of the literature about IL.⁵ Academic librarians are seldom in charge of developing or evaluating research assignments, yet LIS's disciplinary predispositions have shaped the main discourse, advocacy, and rudiments of information literacy. As Stuart Boon, Bill Johnston, and Sheila Webber point out, non-LIS faculty are "front-line educators" and are thus "potentially vital agents for information literacy."⁶ Consequently, developing a greater understanding of these "vital agents" is imperative for LIS's professional goals of developing information-literate students.

However, there has been scant examination of how faculty in disciplines outside of LIS perceive information literacy. In particular, there has been insufficient analysis of how a professor's specific field of study influences his or her perceptions of IL. Every instructor has developed his or her individual conception of what important research skills are; however, there has been little examination of how these ideas might conflict with the view of IL developed within LIS. What follows is in no way a comprehensive overview of IL literature; instead, this is an examination of the literature about information literacy that is relevant to how faculty perceive the concept.

A stream of thinkers have emerged within LIS who have criticized certain aspects of IL thought exemplified in professional documents such as the Association of College and Research Libraries (ACRL) standards.⁷ James Elmborg finds that IL projects, such as the ACRL standards, frequently "attempt to identify deep underlying universal structures . . . [that] can be named, described, and, perhaps most importantly, replicated in all contexts for all students."⁸ This tendency reflects a lack of engagement with many movements and trends (for example, positivism, postmodernism, humanism, and posthumanism) that have influenced the social sciences, the humanities, and education since the 1960s.⁹ Michelle Holschuh Simmons has argued that a key characteristic of an academic discipline is that it is a discursive community in which members share the ways in which they "write, read, speak, and research, as well as the assumptions that they make and the epistemologies with which they craft their arguments."¹⁰ Despite these notable critiques of IL practice as being divorced from disciplinarity, few researchers have examined how disciplinary cultures shape perceptions of information literacy. Therefore, a study of how non-LIS faculty's disciplinary positions shape their conception of IL is of vital importance.

LIS researchers have studied non-LIS faculty attitudes toward information literacy, but most of these studies have been surveys distributed online or were conducted more than five years ago. Sophie Bury's thorough online survey of faculty perceptions and

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experiences is notable because of its multidisciplinary sample and its findings that most instructors value IL; however, many faculty members still do not voluntarily utilize all of the IL resources and services that libraries make available.¹¹ Jacqui Weetman DaCosta's survey work with faculty in both England and the United States demonstrated similar findings.¹² These studies were all surveys that utilized qualitative methods, but they did not consist of the type of in-depth interviews conducted by the authors in the present inquiry. Jodi Tyron, Emily Elizabeth Frigo, and Mary Kathleen O'Kelly's study of faculty at Grand Valley State University in Allendale, MI, utilized focus groups. The study examined the instructors' reaction to IL competencies developed by librarians based on generally accepted standards and literature (for example, the ACRL IL standards) as well as their institution's culture and curriculum.¹³ By presenting faculty with already developed IL competencies, the research necessarily limited results to the focus group's responses to a specific set of standards designed for a specific institution.

Christine Bruce pioneered the phenomenological study of faculty perceptions of IL with a large study conducted in the mid-1990s in Australia.¹⁴ From Bruce's large sample size (sixty interviews), she found that higher educators expressed seven different conceptions of information literacy. These conceptions ranged from a functional "information technology" notion to an abstract "wisdom" conception. Although this study revealed many important insights, one would expect that conceptions of IL have changed significantly since the mid-1990s due to considerable technological developments in how information is produced, distributed, and consumed. Boon, Johnston, and Webber—researchers in the Department of Information Studies at the University of Sheffield in England (now called the Information School or the iSchool)—built on Bruce's work in their paper "A Phenomenographic Study of English Faculty's Conceptions of Information Literacy." In this work, the researchers interviewed English composition and literature faculty around the United Kingdom and encouraged them to identify and discuss their conceptions of IL.¹⁵ Because the investigators focused on members of English departments, they did not gather a cross-disciplinary sample as the authors of the present study did. Boon, Johnston, and Webber did report that the faculty examined viewed IL as playing "an integral role in academic research in the discipline and that its significance informs teaching and learning processes as well."¹⁶ The three researchers evaluated the interviewees' responses through the lens of four key "Conceptions of Information Literacy." These conceptions deal with elements that have become firmly established in IL and higher education more generally (for example, using information technology to access and retrieve information, and possessing basic research skills). The present inquiry is primarily concerned with the various ways in which faculty conceptualize student research and IL as being embedded in their discipline; therefore, it mostly falls into the conceptual category that Boon, Johnston, and Webber classified as "becoming confident and autonomous learners and thinkers."¹⁷ It is in this area that subtle, yet important, differences appear between LIS professionals and faculty in other academic departments.

Louise Limberg, Olof Sundin, and Sanna Talja, professors at three Swedish universities, surveyed recent theoretical trends in IL literature and found that three strands predominate: phenomenography, sociocultural theory, and Foucauldian discourse analysis.¹⁸ The three authors examine phenomenography, which studies the different ways

that people experience or think about something, not only as a methodology but also as a theoretical framework. This phenomenographic framework, they say, sees education and IL “as an activity of constructing meaning, not as the transfer of knowledge from teacher to student.”¹⁹ Limberg, Sundin, and Talja find that the work by Bruce and that by Boon, Johnston, and Webber exemplify this strand in that both focus on the role that variation plays in how IL is experienced as a phenomenon and how information literacy “can be used to cross borders between different disciplines and professions.”²⁰ Limberg, Sundin, and Talja’s sociocultural approach focuses on how information seeking is carried out toward a specific end—or ends—within a both a social and cultural context.

Foucauldian discourse analysis, based on the theories of the French philosopher Michel Foucault, looks at language and the power relationships in society. According to this approach, discourse—written or spoken communication—defines what is possible to talk about and creates what Foucault calls an *episteme*, a dominant framework for understanding social reality and determining the kinds of questions that are possible to be posed. Foucauldian discourse analysis considers language a reflection of reality, not an exact copy, and so it can only create what Limberg, Sundin, and Talja describe as “a limited and partial perspective for producing knowledge.”²¹ Because the current work is focused on examining faculty’s conceptions of IL as a phenomenon, the phenomenographic perspective is the most germane.

The trends outlined in this literature review have resulted in the development of new IL models that incorporate these perspectives into their conception of an information-literate person. Among the most prominent of these models is the *Seven Pillars of Information Literacy* developed in the United Kingdom and Ireland by the Society of College, National and University Libraries (SCONUL).²² This model explicitly states that “becoming information literate is not a linear process,” and it identifies seven “pillars” or basic skills (for example, the abilities to identify, gather, and evaluate information) that a person can develop “simultaneously and independently” from one another.²³ SCONUL’s seven pillars mark an important development in that they incorporate the strands of IL thinking that have emerged in the past decade.

As this selective review of IL literature reveals, there is insufficient research that addresses specific questions about how academic fields shape faculty’s conceptions of IL. Due to this lack of research, the authors were interested in more abstract conceptions of information literacy and how these ideas are, or are not, reflected in how instructors discuss IL as it relates to both general education and discipline-specific curricula and courses. As this literature review demonstrates, LIS professionals have explored basic IL concepts at length—for exam-

ple, the idea that students need to learn how to use electronic databases for their research has become pervasive in higher education. However, the ways in which faculty members’

views of how they would like students to apply IL skills, knowledge, and experience within varied disciplinary contexts—and how their conceptions of information literacy may differ from LIS’s—remain underexplored.

there is insufficient research that addresses specific questions about how academic fields shape faculty’s conceptions of IL.

Methodology

A qualitative phenomenological approach elicits from interviewees a description of things as they understand them.²⁴ As a method, phenomenology offers a way for investigators to study a phenomenon based on subjects' own perceptions of that phenomenon. This type of analysis allows investigators to evaluate narratives that reveal how the phenomena are perceived—in our case, faculty's perceptions of IL. By asking a series of standard, open-ended questions about IL (for the list of interview questions, see the Appendix), the investigators were able to analyze how a sample of professors describe IL and how disciplinary specialization influences this perception. As evidenced by the scholarly debate, information literacy is an abstract concept, and the professors' subjective perception of that concept is of crucial importance to librarians, faculty, and administrators alike. The work that follows builds on the work of Boon, Johnston, and Webber and of Bruce, who used phenomenology to examine faculty perceptions of IL, but the present inquiry's focus on specific fields of study marks a departure from previous work.

The sample was limited to two institutions, and its size was necessarily small (the investigators conducted twenty interviews). Additionally, the authors approached the interview subjects locally via Internet announcements on campus and through peer contacts; therefore, the selection of interview subjects was not statistically random. The interview subjects were not offered incentives for participating in the study. Therefore, selection bias is an issue in that the simple act of agreeing to discuss IL for thirty minutes or more demonstrates a commitment to the concept. Despite these limitations, the investigators gleaned a significant number of details from the twenty interviews that should be relevant to a wide range of institutional roles. Despite these caveats about generalizability, this study contributes more than sufficient information for hypothesis-building and provides a "thick description" of how a small sample of faculty members from different disciplines conceptualize IL.

The investigators interviewed faculty at a comprehensive college (a college with associates of arts and sciences programs, four-year baccalaureate programs in the arts and sciences, and graduate and PhD programs): the College of Staten Island, City University of New York (CUNY). They conducted similar interviews at a community college: Bronx Community College, CUNY (a two-year institution that confers only associate degrees and vocational certificate programs). Both sets of interviews took place during the 2012–2013 academic year. Although the College of Staten Island has graduate programs the focus of the interviews was primarily on undergraduate research—although several interviewees discussed teaching graduate students. Due to the nature of the institution, the interviews at Bronx Community College focused primarily on undergraduate education.

The investigators asked a set of standard questions (see Appendix); however, the interviewers frequently departed from the script to elicit more lengthy responses or to seek clarification from the subjects on topics of specific interest. All of the interviews were recorded and converted to digital audio files. A transcription service then transcribed these files. A grant from the Professional Staff Congress–City University of New York (PSC–CUNY) Research Award Program covered the expenses. The authors then analyzed the transcripts, examined the language used in the discussions, and identified the

Table 1.
Interviews by disciplinary training, academic department, and college type

Interview no.	Disciplinary training	Academic department	College type
1	Biology	Biology	Comprehensive
2	Biology	Biology	Community
3	Cognitive psychology/speech language pathology	Communication Arts and Sciences	Community
4	Communications	Communications	Comprehensive
5	Communications	Communications	Comprehensive
6	Economics	Finance	Comprehensive
7	Education/teacher training	Education and Reading	Community
8	English	English	Community
9	English/English as a second language	Linguistics	Community
10	English composition/rhetoric	English	Comprehensive
11	Film theory and criticism/video production	Communication Arts and Sciences	Community
12	Health education	Health, Physical Education, and Wellness	Community
13	History	History	Comprehensive
14	History	History	Comprehensive
15	Mathematics and computer science	Mathematics and Computer Science	Community
16	Nursing	Nursing	Comprehensive
17	Nursing	Nursing	Community
18	Psychology	Psychology	Comprehensive
19	Radiology	Nursing	Community
20	Social work	Student Affairs	Community

Table 2.
Interviews by disciplinary training, academic department, and college type

Interview no.	Disciplinary training	From response to question 1
1	Biology	In my field, information literacy would represent the ability to take information from various sources—whether it be databases, published articles, chapters in books, even seminars that individuals would attend—and comprehend it.”
2	Biology	“[You] brought back to me back to that experience, when I took that library science course in my bachelor’s degree, first year. . . . As part of the curriculum we had before computers, Internet and Google and Yahoo, all of that, we used to use index cards in libraries. I still remember a citation journal called a citation index, just to be able to find what are the latest publications in [a] specific specific area, in biology, that you are interested in. “Yeah, we had to go through all of that, and that one-credit-hour course. How to use the library, how to retrieve information, how to use the library effectively. Don’t waste too much time looking. And of course, yeah, based on the discipline of biology, there was an emphasis on how to get the relevant publications literature-wise what you’re working on.”
3	Cognitive psychology/ speech language pathology	“It relates to students’ abilities to—well, to anybody’s ability—to engage in information analysis, information searches and information—information analysis, information searches, and informational organization as it relates to the internet, school databases and other computer resources.”
4	Communications	“[In] the 80s there was this whole idea of media literacy that came out . . . part of our training in elementary school and high school and college we got to train students to be intelligent consumers of news. Not just news; intelligent consumers of information. To know when people are sneaking commercials into TV programs and where news comes from; so that’s what makes it weird because there’s this whole world of media literacy out there that I don’t think quite gives up with information literacy.

- 5 "For me information literacy would be the ability to find, evaluate and synthesize relevant information. But also the ability to produce information critically as well . . . I guess it's getting away from this idea of total media consumer. It's just this person who's both media producer and consumer simultaneously."
- 6 "Well, my take on it is being able to make sense of information, so sort of being able to determine where is it coming from, how valid is the source . . . something that I think our students find very challenging in the digital age in terms of all kinds of the random things they bring in."
- 7 "Information literacy, to me, is the ability to acquire documents, acquire information from various sources, but then the other piece is also testing the quality of them, being able to understand what is a valid source, what is an invalid source, what is questionable—and then, obviously, use them in productive ways."
- 8 "Information literacy, it is—refers to the idea that someone if you're in the position where you have to access information, retrieve information, and you're able to do that, you know what avenues you need to take to access the information, then I think you're literate in terms of obtaining the information."
- 9 "Information literacy? Well I would define information literacy specifically as the understanding of and an ability to access information and particularly academic information."
- 10 "I would say that information literacy has to do with how someone acquires information, in particular finding stuff that's relevant, and knowing what's relevant and not relevant, and how they evaluate that information. So how they know if it's credible or not."
- 11 "When I think of information literacy, I guess I'm thinking of terms of literacy. You kind of define that in terms of proficiency; so having proficiency in accessing information and finding information, knowing where to get information, knowing how to—I guess I usually think of it that way. It could be—I guess maybe sometimes I think of it also as knowing what to do with information. But I guess some context I tend to think of it as accessing, finding information."
- "I have on my exams—I just wanna share this with you. I'll read it. On the first page of the exam it says, 'True or false with an asterisk. You must write "true" or "false." No T/F abbreviations.' Do you know how many students would come up and still hand me with T/F and I told them to sit down and they go, 'I didn't see that,' and I say, 'Information literacy,' and I tell them the example that that's how they check you on the assistant director's exam for the director's guild. They tell you that and if you write 'true' or 'false' you're disqualified from the exam. And students don't believe me and I tell them, 'Well, when you

Table 2. Continued.

		<p>take the exam you'll know' . . . [That is] the part that's real important that they know—that they not only enjoy reading and writing, but they really learn how to do scholastic work in college to get a grade. For any course you're gonna be in you're gonna have to write a paper. We have students writing papers in our even non-writing intensive courses here. So knowing how to use the Internet, knowing how to use to go to North Hall [the library building] and to know how to talk to you and communicate what they need and what they're looking for [about] their topic and how to find it and [to] be information literate. This is taught in our schools now at a young age."</p>
12	Health education	<p>"[In] our discipline, we call it health literacy. It typically is divided into three parts. One is functional literacy, which is the ability to read and write in the language that your health care provider is giving your information. The second one is interpersonal literacy, which is basically communication skills, being able to talk, have the vocabulary to speak and ask questions about whatever the health topic is. The last one is critical literacy, which basically amounts to the ability to separate valid and reliable health information from quackery."</p>
13	History	<p>"Well, I look at information literacy from two perspectives. First, how you get and interpret information. This involves a lot of different things, including mass communication, including books, including computers. The different ways that you get information or you are apprised of knowledge—that I consider to be information literacy."</p>
14	History	<p>"Knowledge of using tools and resources to conduct research."</p>

- 15 Mathematics and computer science "The first thing that comes up to my mind is probably the ability to get the information that you need. So—and when I think about that then most likely I would think of use of computers . . . For some subjects and areas it's—so the ability to use computer or Internet to get information. In some areas I know that the materials that people need, they're not really presented or available online so then the ability to go to the library or to go to where the resources are located."
- 16 Nursing Information literacy would encompass an individual's ability to seek out reliable information and distinguish it from nonreliable information or nonvalidated information both in different kinds of media format, like books, journals, online environments and so on."
- 17 Nursing "Information literacy . . . information literacy, I guess, to me would be the student's ability to retrieve data from multiple sources; to be able to critique the validity or the reliability of that source, and therefore, the data; and to utilize that information to apply to their discipline."
- 18 Psychology "I would define information literacy as a knowledge of accessibility, understanding where information—resources for finding information, so understanding the best places, if you have a question that you want to address, the knowledge of how to go about finding support for your answer is what I would consider information literacy."
- 19 Radiology "Not that I've given it much thought . . . but I define it as a compilation of ability to delve through and deal with library technology, apps the Web—basically, everything that's all interconnected. I think that any student, regardless of the discipline, should be able to go into a library and use it."

Table 2. Continued.

20	Social work	"I define information literacy as the ability to access all means of—all entry points for information, whether it be print, technological, to be able to get your needs met or express yourself through whatever medium to communicate information, to be able to obtain it, to be able to promote it or communicate it, to access it. That's how I define information literacy. Did that make sense?"
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common themes that emerged in the dialogue. Both investigators reread the transcripts several times to delve deeply into the themes identified upon initial examination. The authors paid close attention to the explanations given about how specific fields of study shaped conceptions of IL and developed the typology discussed later under the heading Faculty's Conceptions of IL and LIS's in Comparison, which describes how faculty thought about the application of information literacy.

Findings and Discussion

Disciplinary Training, IL, and Institutional Context

At the outset of the study, the authors hypothesized that faculty's disciplinary training would heavily influence their conceptions of IL. In our sample, however, this largely proved not true. When asked to define information literacy (see Table 2, "Responses to Question 1"), participants viewed IL as a combination of the basic skills and concepts that have become a large part of academic discourse along with the acquisition of basic library skills. The responses also demonstrate how frequently the interviewees turned to personal experiences and to encounters with their students to describe IL. There was no specific question that sparked discussion about general learning in the interviews. Although the questions about challenges and external factors (see Appendix, Questions 5, 7, 13, and 14) naturally facilitated more discussion of such topics, no definite locus of departure could be identified. This tendency can be observed in Interview 13 (see Table 2), when in response to Question 1 a faculty member describes the importance of the ability to read and to comprehend test questions when asked about the definition of IL.

Throughout the interviews, institutional and curricular requirements and the needs of specific students overshadowed disciplinary training in the interviewees' responses. Particularly at the community-college level, faculty—regardless of their disciplinary background—must teach students with varying degrees of preparation for college-level work. As a result, nearly all of the faculty members discussed the importance of addressing fundamental literacies in students, particularly related to reading comprehension, vocabulary, and writing. These conversations revealed that faculty were, for the most part, not describing IL in ways that were influenced by their disciplinary training, but instead in ways shaped by the academic needs and goals of the college in which they taught. When asked about IL, faculty viewed these issues as entwined.

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Fundamental Literacies

While advanced disciplinary training plays a large role in shaping how faculty perceive the research process, nearly all of the faculty members in the sample expressed

an awareness that students—particularly undergraduates in their first or second year of college—require numerous interventions to aid in the development of fundamental literacies related to both general education and discipline-specific goals. The interviewees

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discussed these issues frequently when asked about IL. Many of them articulated a vision of these foundational skills and behaviors as operating around a set of scaffolds ranging from a basic set of abilities to find appropriate information for, say, an English composition paper, to a higher-order understanding of how contemporary information systems are produced and maintained. The ultimate higher-order goal is to allow for deep reflection and synthesis that leads to new forms of knowledge and analysis, the hallmarks of academic knowledge production.

When asked about IL, interviewees would discuss

similar concepts in their discipline, such as media literacy, health literacy, and the scientific method. These associations reflect the ways in which the participants' disciplinary perspective shaped the ways they discussed information literacy (for example, see Table 2, Interviews 4 and 12).

The interviews revealed that addressing the foundational needs of undergraduate students directed the focus of faculty members away from their disciplinary culture and discourse and toward concrete institutional and curricular goals. This is particularly the case at the community-college level, where faculty must meet the students at their current state of academic development, which may involve simply introducing them to college-level work. As a result, faculty—regardless of their discipline—frequently expressed a common understanding of the rudiments of IL that heavily corresponded with their colleagues in different disciplines. For example, a biology professor engaged in Writing Across the Curriculum courses will have IL expectations similar to a faculty member in the humanities; these expectations are not discipline-specific at the introductory level. The interviewees would often discuss IL in general terms at one moment, only to suddenly shift to commenting about issues related to general learning. Instructors often expected students to be able to locate, assess, and synthesize reliable information gathered primarily from recognizable academic resources into coherent and well-cited papers, but they also acknowledged the challenges that many students faced in their day-to-day lives.

There was a common concern expressed by faculty that the hurdles faced by many students were deeply related to their writing skills, their ability to digest what they read, their challenges with language, and their reliance on the Internet for knowledge. One interviewee stated that the goal of many programs at two-year institutions, such as the nursing program, is for students to transfer into four-year programs and to obtain more advanced degrees in their fields. Consequently, the instructor said, "IF the goal is to transfer to the four year . . . [not having exposure to writing papers] is a disservice."²⁵ The same faculty member complained that, many times, exposure to the rudiments of a research paper may be introduced too late in the students' academic calendar. Several interviewees in our sample taught in programs, such as nursing and biology, that have

begun to include writing-intensive courses requiring students to produce a research paper, but this requirement typically occurs in the last or more advanced courses of a major. Due to differing curricula, faculty members teaching baccalaureate students will necessarily have had different experiences.

At the community-college level, faculty demonstrated a greater focus on the rudimentary skills associated with IL (for example, retrieval of articles and identification of sources). Although faculty would like to refine students' critical abilities at higher levels of abstraction, the students they encountered had levels of academic preparedness that forced them to address basic skills more often than at the comprehensive-college level. Faculty, particularly at the community-college level, revealed that they must concentrate on approaching research assignments as opportunities to address basic writing and research skills, which are informed by their disciplinary background but not prescribed by them.

At the comprehensive four-year college, on the other hand, faculty teaching higher-level courses in a major expect their students to have conquered the rudiments of searching, evaluating, and synthesizing information. At the higher levels, faculty begin to imbue learners with the disciplinary approaches that shape their field and prepare the students for graduate study. Almost all of the faculty members expressed a level of weariness

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because they frequently encounter students who have yet to develop many of the fundamental literacies related to research and writing. For example, a community-college professor may not fully see the evolving pattern of a student's academic development, while a professor at a four-year institution teaching both introductory level courses and 400-level or "capstone" courses has a broader temporal perspective. Some students never take a research course until their senior year, which may hamper their IL development. As a consequence, the different approaches by faculty members to IL at a community college and at a four-year institution center on different points on the academic spectrum.

Behavioral Norms of the Academic Community

When asked about IL, many of the faculty emphasized the importance of developing the fundamental behavioral norms associated with higher education. Due to the status of the City University of New York as a large urban public institution of higher education with many first-generation college students, many of the faculty discussed the importance of socializing students into higher education. This process of socialization is not limited to the challenges of adapting to college life and balancing personal and academic life, but also includes learning the literacies related to college life (for example, good study habits, research skills, and writing). Some interviewees expressed this idea when they stressed the importance of students feeling that they are "able to do things on their own" around skills embedded in specific courses. Participants mentioned that they frequently attempt to shape academic behavior and to generate familiarity with the various forms

of scholarly inquiry. Moreover, interviewees voiced the belief that these newly acquired IL skills should result in the internalization of new behaviors and adaptive strategies that allow individual students to learn within the context of a specific discipline and to more generally develop the skills to manage diverse information needs.

The authors operated under the premise that specific skills are clear, measurable, and can be explicitly taught. General academic behaviors, on the other hand, are more idiosyncratic and are developed over time through greater familiarity with the scholarly community. The authors asked the interview subjects to discuss the tension between discrete IL skills that can be taught through specific classroom interventions and the more abstract, difficult to define, behavioral elements of IL that are the signs of higher-order critical thinking and analysis. For example, the ability to cite sources properly in a particular style is a discrete skill, but the ability to create a comprehensive and exhaustive annotated bibliography rests on having internalized how to select from varied sources and how to identify which are the most relevant.

Our interviewees point out that it is essential to expose students to different modalities for managing information, which range from learning how to access resources (retrieval skills) to higher-order skills such as critical thinking and analysis. One participant in particular described how it may be a “combo” where “once a student learns the skills then they can engage in the behaviors that facilitate information literacy . . . like a loop.” This same interviewee initially indicated that “the inability to use proper APA [American Psychological Association] format” was the greatest deficiency encountered when discussing IL. The manner in which this faculty member quickly moved from

Many participants lamented the “Googlization” of research and made such claims as: “They go for the easiest, quickest thing that’s available to them,” . . .

this specific technical skill to its relationship to critical thought was notable. This instructor wanted students to “become savvy with APA format” and to “do the research . . . [and] defend and refute their own position.” Here one can observe an instructor attempting to critically engage students in the meaning of IL in a way that builds upon a set of basic, measur-

able skills. Some faculty (particularly at the community-college level) were surprised to discover that they cannot take skills for granted or assume that students are familiar with the basic rudiments of how to locate information, how to log into e-mail, or how to access course notes on an online course management system.

One of the key challenges that many interviewees mentioned was students’ lack of time to focus on the development of the behavioral norms associated with the academic community. Due to economic necessity, many students work and attend to family responsibilities in addition to engaging in academic course work. These realities contributed to the interviewees’ belief that the rush for finding information quickly coupled with the ubiquity of the Internet could act as impediments for the development of sound scholarly research behavior. Many participants lamented the “Googlization” of research and made such claims as: “They go for the easiest, quickest thing that’s available to them,” “Oh Google it!” or “Whatever Google says, that is it.” Some interviewees viewed the contemporary information environment as facilitating a perpetual rush to find the first few hits in a search.

Faculty's Conceptions of IL and LIS's in Comparison

At the outset, the authors hypothesized that many faculty would conceive of IL in ways that substantially differed from the ideas of LIS professionals; in our sample this proved not to be the case. For the most part, faculty expressed an understanding of the importance of information literacy as well as the skills and behaviors that are described in most LIS literature (for example, the ability to locate, access, organize, and apply information found in the research process). The interviews revealed that faculty members did not view IL as distinct from their disciplinary practices. When asked about information literacy, faculty members would discuss their discipline and IL in a language that suggested that they did not consciously distinguish between the two. Mostly, they did not regard knowledge of the research process and subject-specific knowledge as disparate entities.

The interviews revealed that faculty engaged in teaching students at both the comprehensive-college and the community-college level view their IL work as necessarily entwined with exposing students to the fundamental literacies of their discipline. These concepts had much in common with LIS concepts and the ACRL standards, but few participants considered IL as something that stood outside of disciplinary literacies. By and large, faculty found that students had become confident and adept at using information technology to access material and information; however, many found that synthesizing information and applying it toward specific ends in a creative and critical manner related to their discipline was far more challenging. The subtle difference in the ways that the academic department faculty and library-based faculty conceptualized IL related to how they perceive students as employing IL.

Three Themes

The authors identified three different themes in the faculty's conversations about student skills and behaviors related to IL: a contextual theme, a textual theme, and an empirical theme. These three themes are introduced to provide analytical clarity; almost no faculty members fit neatly into one box, and several even touched upon all three themes. Any such typology is reductive, but these separate themes did emerge in the interviews and provide a framework for thinking about how faculty members think about the application of IL skills and behaviors in their specific disciplines. Such a framework should have a high degree of utility for IL practitioners in libraries. Because most IL frameworks seek to universalize information literacy as a group of general skills, the disciplinary context in which these skills and behaviors are applied often recedes into the background.²⁶ Because of LIS's disciplinary concerns, this focus is not a large issue in IL literature; however, the interviews demonstrated that, for faculty, such universalizing frameworks are not the lens through which they view information literacy. The authors introduce these themes as potential ways for IL practitioners to engage faculty in conversations around information literacy.

Many IL models seem to view the acquisition of IL skills as occurring in a linear fashion. For example, first textual information is read and comprehended, then the ability to use information communications technology is developed, and finally a new "digested" product is created. The faculty expressed the belief that such skills could be improved through specific classroom interventions that build upon previously acquired

skills. At the same time, they frequently put forth the view that the ultimate goal of this work is the development of confident and autonomous learners and thinkers within the discipline, in other academic contexts, and in still other settings where information is needed. Faculty members viewed the development of these IL applications as a continu-

Faculty members viewed the development of these IL applications as a continuous and unfolding process that only becomes crystallized into specific educational products (for example, research papers or presentations).

ous and unfolding process that only becomes crystallized into specific educational products (for example, research papers or presentations). These disciplinary IL themes are tied to the goals that the faculty members hoped to achieve in a specific institutional setting directed toward producing a certain kind of student at the end of their academic pro-

gram. The utility of this model for practitioners in libraries is that it provides a framework for analyzing the different ways in which the faculty members discussed applying IL that is cognizant of their diverse disciplinary orientations.

Figure 1. Number of interviews in which each theme was mentioned.

Figure 2. Themes by academic discipline.

Contextual Theme

The theme identified most frequently and across the most disciplines was the contextual theme. Faculty members viewed the development of contextual skills and behaviors as being particularly important for undergraduates who need to develop an awareness of the context in which their research occurs and the discretion to make informed decisions about their research. Many interviewees were specifically concerned with the “data glut” that can overwhelm students and lead them to simply select the first few items in any search query. Many instructors articulated the idea the students are good at getting some results from commercial Internet search engines (for example, Google), but the ability to contextualize this information required experience with—and engagement in—the ideas and concepts of the course and the discipline in which

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the research occurred. For the interviewees, the contextual application was concerned with developing within students not only the ability to identify, locate, and read peer-reviewed research but also the know-how to separate the “signal from noise” in the vast pool of available information.

A communications faculty member observed, “It’s not that there’s too much information; it’s that the silos between different kinds of information have merged, and that’s exciting and great in many ways, but it also . . . I don’t know if they [students] really always know what’s what.” In this case, the implicit distinctions that academics have internalized (for example, the difference between popular magazines and scholarly journals) are not readily apparent to the uninitiated. At the highest level, the student should be able to understand the relationship of each piece of information to the larger world and then be able to blur those differences in the appropriate context. The same interviewee continued to say that it is “internally contradictory insofar as . . . they [students] need to know what the different informational silos in the world are. But they need to be able to break those down and mix those up when needed.” The instructor added:

They [students] need to know the hierarchy of information so well that they can go beyond it. This provides an articulation of context not so much as a clear path toward specific ends that can be universally applied, but more as something that develops internally over time in idiosyncratic ways. In other words, the ability to contextualize only

develops after a lengthy and deep engagement in both the discipline and the information analyzed in research so that the student knows when citing nonacademic sources is appropriate. Simply learning the distinction between academic and nonacademic sources is just the first step.

The interviewees found that the contemporary information environment only exacerbates the problem of “information overload” and that this overload necessitates the development of context to further advance student understanding.

The interviewees found that the contemporary information environment only exacerbates the problem of “information overload” and that

this overload necessitates the development of context to further advance student understanding. One instructor described an assignment in which too much information was deliberately given to students and explained the goal of this assignment thusly:

It’s not about the volume of information that you have, it’s about the ability to use the resources, and to use the resource, you have to have context. If you don’t have any context of what this is, how to read it, what it says, what it tells you . . . giving them more, which is what the Internet does, is absolutely useless because they have no ability to classify it, organize it, turn it into some sort of structure.

In this case, the goal of the assignment was to force the students to draw upon the knowledge of their discipline and use it to evaluate the information provided to them. This is a conceptualization of research in the contextual theme that was common—engagement in the academic content of the discipline develops through the research process and results in a greater ability to place information into an appropriate context.

Many interviewees observed that students have been habituated into accepting that the information that is presented via institutional authorities (such as the library or major newspapers) is not to be disputed, but scholars know that a great deal of academic discourse is fundamentally about informed argumentation. Other faculty described how the modern information environment and the availability of Web search engines do not lead students to seek out more authoritative resources. As a result, some faculty members describe offering research

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assignments where students are prompted to “detail . . . the method of the literature search so that even if it was not a comprehensive systematic review of all the literature available that it specifies the method of selecting the information.” Faculty concerned with contextual themes may home in on the students’ proficiency in the “criteria for inclusion versus exclusion.” Many interviewees discussed the challenges of encouraging students to understand that—particularly in academic discourse—the goal of higher-order information literacy is the development of independent and original thought and analysis. One interviewee observed that students “come in with this idea that writing shouldn’t be biased, so they always read everything looking for bias . . . [but] scholars make an argument.” Difficulties frequently mentioned included facilitating students to transfer critical thinking skills from responding to particular texts to the larger research process. For example, “Sometimes you feel you get them [students] somewhere where they’re expressing critical thinking in their own writing, but then as soon as you get to the research paper, then it’s like their critical thinking goes out the window.”

The contextual theme is of fundamental importance to many disciplines and corresponds to many of the goals articulated in the ACRL standards—particularly Standard Three: “The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.”²⁷ The key difference between this LIS conception of information literacy and the faculty’s conception lies in how faculty see the development of general analytical IL skills and behaviors as being embedded in specific disciplinary forms of inquiry. This kind of context develops out of academic experience and an internalization of where to position each piece of information discovered in the research process.

Textual Theme

The textual theme is primarily concerned with the interpretation and creation of texts. This theme’s focus is on developing students’ ability to closely read and synthesize written texts and to use that understanding to place a specific text—or corpus of texts—into a disciplinary framework. This theme includes media beyond the written word, which can also be read and synthesized in a similar manner (for example, films, literature,

or photographs). This theme is most closely associated with the humanities and acts of composition; however, the ability to read and write texts is the academic bedrock upon which nearly all general education programs rest. These fundamental literacies are essential in the process of learning how to interpret and create texts. For example, when should a student use a secondary source to better understand a difficult primary source? This relationship can be observed in action when an interviewee says, "I would like them to know how to locate an academic book, know how to find out . . . what the main themes of the book are."²⁸ This ease with which this instructor can switch from discussing the act of seeking information to stressing the importance of the student's ability to interpret the text demonstrates how closely related these activities are in the interviewee's mind.

The textual theme emphasizes the relationship between writing and thinking and how IL is about synthesizing disparate strands into original ideas. As one interviewee states, "What's important in a research paper is for students to think critically and to come up with something on their own, not just to regurgitate stuff that they've read someplace else." In this theme, the boundaries between general literacy and IL blur for the interview subjects. The same instructor continues:

I think that some of the obstacles have nothing to do with information literacy, per se, but just have to do with literacy frankly . . . some . . . students are still having a lot of trouble just reading in general. So then when you move them from the primary text that you're looking at in class to looking at outside sources . . . [students will need] literacy skills and close reading skills to be able to understand this outside source . . . So I would say almost the information literacy has to do with a greater kind of literacy issue by the time they hit my classes.

This passage demonstrates that IL and general literacy skills must be developed in tandem. The ability to synthesize diverse sets of texts is a high-order skill, and interviewees saw it as only developing the more students acquire general literacy skills.

Although the textual theme was expressed as being important most often by humanists, it did emerge as a biologist discussed goals. "I would give a journal article of

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a particular science field . . . and I ask them [students] to comprehend it; so they would have to understand the research, understand what the figures are trying to say, and then understand what the conclusions are of that research." Clearly, one must be familiar with text to understand and comprehend science articles, and one must be able to write in order to create quality lab reports. As this example

illustrates, the textual theme was the most important when interviewees described specific disciplinary practices that related to literacy more generally.

Empirical Theme

When educators discussed the empirical theme, they expressed an interest in developing the capacity for students to create and analyze empirical evidence (that is, evidence

obtained through observation or experimentation). They also reported an interest in developing students' abilities to engage in learning material through direct sensory interactions (for example, lab experiments). The development of such specific disciplinary skills is fundamental to how many scientific disciplines conceptualize research, but it is built in relation to the other themes discussed here and to general educational skills and behaviors (including IL). Unsurprisingly, the empirical theme was observed the most by faculty teaching in the sciences and mathematics. In this theme, the ability to read and comprehend texts and to contextualize information found in research all coalesce in the application of this knowledge and experience in an applied setting (for example, the laboratory). The ability to develop and test hypotheses—which is the hallmark of the scientific method—is how interviewees discussed this theme. In these disciplines, students are expected to have little or no disciplinary experience prior to the course and to then learn how to conduct research in applied settings.

For undergraduates this means that, say, reading peer-reviewed research is much less important than foundational knowledge. When asked about research and IL, a biology professor expressed the importance of “a strong foundation in the basics of science . . . if you're working in a biology lab” before discussing anything else. This interviewee also stressed that students are not expected to bring research knowledge into the lab when working within the empirical theme of research, commenting that when students “first come in [to the lab], they always clearly have never spent much time in the labs, so they are very green as we would say. And the first thing that I like to teach them, and see in them, is not to be afraid to make a mistake, as long as that mistake is not ‘burning down the lab.’” This focus on learning how to make mistakes through an empirical application of knowledge demonstrates just how different the empirical theme is from the contextual and textual themes; this applied focus demonstrates how, for some, research takes place in an entirely instrumental manner.

The empirical theme was prominent when interviewees discussed the application of academic knowledge in an applied professional setting. In disciplines like nursing, professional practice involves applying learned knowledge in measurable ways. As one instructor observed, “For nursing, thinking on their feet [is a major obstacle]. They go into a bedside, they notice this, they notice that. How significant is that? Does that need to be reported now? Can it be reported later? Or not noticing something at all that should've been noticed: like the patient's breathing tube was migrating out of their throat.” In an applied discipline, such as nursing, the ability to internalize disciplinary information-seeking behaviors and to use them in real-world contexts is critically important. The cultivation of the ability “to think on one's feet” in professional settings is a key aspect of this theme.

Overall, the empirical theme is instrumental in the sense that it is concerned with achieving measurable ends. As one interviewee commented:

This automatically takes me to scientific research . . . we go and follow the scientific method, which is pretty much before you do anything, you have to have a reason to do research . . . We didn't do it because we are out of our minds and have nothing else to do, because it's expensive, it takes time, money and all kinds of resources . . . you have to be very clear on your goal, objective, why you're doing it and why is it important.

As this passage demonstrates, it is particularly difficult for undergraduates to feel emboldened and confident enough to believe that they can participate in the creation of

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knowledge, particularly in laboratory sciences that require a great deal of material, training, and institutional support. However, it is the applied instrumental nature of this theme that defines inquiry in many scientific disciplines.

Conclusions and Recommendations

The findings of our study present an interesting contradiction for IL practitioners in libraries.

are deeply related to general education goals (for example, reading comprehension, writing, and disciplinary training), and specialization is not as important (especially in undergraduate programs). These general skills and behaviors develop, however,

...many faculty members saw the goal of undergraduate education and information literacy as being "learning how to learn."

On the one hand, for faculty, general IL goals through a deep engagement in specific disciplinary practices. In other words, many faculty members saw the goal of undergraduate education and information literacy as being "learning how to learn." However, that process of learning can only occur when students engage in—and to some degree internalize—an understand-

ing of a specific academic discourse. It is not so much that students have learned how to master a specific disciplinary discourse; it is that they have learned how to engage in a disciplinary discourse.

The results of this study also demonstrate that some faculty members' perceptions of IL are developed from an understanding of information literacy shaped not only by disciplinary experience but also by the academic preparedness of the students they encounter and the learning goals set by the institutions where they teach. Higher education is under constant pressure to redefine curricular goals and to respond to accrediting bodies and the general public; therefore, institutions continually express information literacy discourse in the form of federal, state, and institutional mandates. As a result,

...most instructors do not see information literacy as something distinct from the literacies of their disciplines.

conversations about information literacy may become a prescriptive delineation of a "laundry list" of information literacy goals and objectives that may differ from the discipline-specific contexts in which faculty think about IL.

information literacy as something distinct from the literacies of their disciplines. Although there is a great deal of commonality in the key skills that library-based IL practitioners and faculty members would like students to develop, faculty discuss them in ways that

The findings of this study also demonstrate that most instructors do not see infor-

are related to how IL is applied in specific disciplinary and institutional contexts. In this paper, the authors identified three different themes (contextual, textual, and empirical) that can serve to describe and categorize the ways in which faculty express how IL is applied in these disciplinary contexts. These themes were developed as a way for IL practitioners in libraries to begin and to further conversations with faculty members about their discipline-specific approaches to IL. For example, if an instructor is working on developing students' capacities related to what the authors call the textual theme, the teacher may devise assignments that focus on expository writing and close readings of difficult texts and may not require a library or research component. It is important for IL practitioners in libraries to understand that these practices are an important part of general IL development.

These interviews reveal that faculty view information literacy as firmly embedded in their disciplines and general education course work; they may be unlikely to approach the library of their own volition because they believe they already incorporate IL work in their courses. Moreover, they view information literacy as intrinsic to their disciplinary practices. This is a possible explanation as to why many faculty members do not utilize all the IL resources and programs that many academic libraries make available—many instructors believe they address these issues within the framework of their courses and disciplines. The authors had hypothesized that disciplinary training would play a large role in how faculty members discussed IL; this turned out not to be the case—institutional frameworks and the needs of the specific students were of primary concern to the interviewees. However, academic fields came to the fore when examining the differences between LIS's and faculty members' conceptions of IL.

The authors' findings suggest that perhaps the most productive times to initiate conversations with faculty members about IL is in discussions of general education goals and other institutional mandates. This is because the study suggests that most faculty think about issues that are deeply related to IL, but they are more likely to use the language and rhetoric of their own discipline. Therefore, moving the conversation into a more general framework may allow for observations that address IL as a more universal concept and could move faculty away from a defensive posture. Regardless of the context in which these conversations take place, the present study suggests that library-based IL practitioners be cognizant of the reality that most faculty see themselves as deeply invested in educational work related to IL, they just identify this work as being embedded in their courses and disciplines and not as a distinct academic discourse. Armed with this knowledge, library-based IL practitioners can identify the most productive possibilities for collaboration, thereby deepening and expanding information literacy throughout higher education.

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Appendix

Interview Questions

Questions posed to twenty faculty about conceptions of information literacy during the 2012–2013 academic year at the College of Staten Island, CUNY and Bronx Community College, CUNY by Jesús E. Sanabria and Jonathan Cope

- What is your department?
 - What would you define as your academic discipline?
 - What is your disciplinary or academic training?
1. How do you define information literacy?
 2. How does your discipline, or disciplinary training, influence your conceptions of information literacy?
 3. How would you describe the research skills of the students that you have encountered over your academic career?
 4. What traits or characteristics do you look for in student work that demonstrates to you that the student has developed, or is in the process of developing, information literacy skills?
 5. What factors external to the academic environment do you think affect the research behaviors that you observe in students?
 6. Please describe your ideal piece of student work (such as a paper or presentation) that requires research. What are the characteristics of a well-researched project?
 7. What is the biggest information literacy deficiency that you have observed in your students?
 8. Do you believe that information literacy constitutes a set of learned skills or behaviors?
 9. Is information literacy related to other forms of literacy that are more dynamic and acquired across a lifetime, or is information literacy more a set of discrete skills that you can teach in a semester or two, or even a single class session?
 10. What are the skills and /or behaviors that students must acquire to demonstrate that they have made progress in understanding the research process?

11. Could you please explain how you design research assignments or research questions for students and your thought process in developing these assignments?
12. What information-seeking behaviors and skills do you believe most students easily acquire when arriving at college?
13. In your opinion, what are the major obstacles that students face when trying to understand how to synthesize and process information found in their research?
14. In your opinion, how has the modern information environment (e.g., the common use of the Internet) impacted how students learn to select appropriate information sources for their papers and research assignments?
15. On what issues do you think that the library and other academic disciplines in the college should collaborate?
16. Could you please describe your understanding of the library faculty's roles in teaching students information literacy skills and concepts?
17. Please describe your "ideal type" information-literate student.

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