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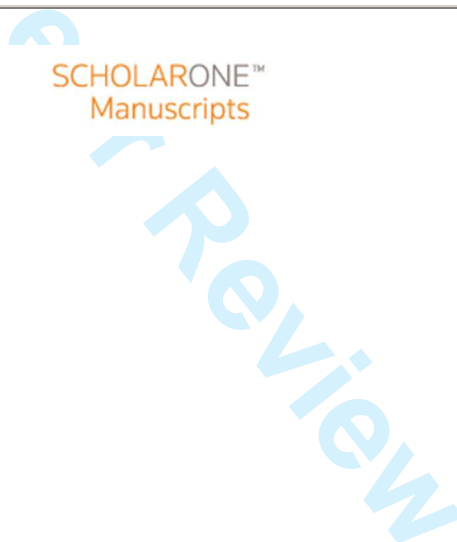
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Situating Information Literacy in the Disciplines: New Opportunities for Sustainable Instruction

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Situating Information Literacy in the Disciplines: A Practical and Systematic Approach for Academic Librarians

Socio-cultural theories of learning and instruction posit that students optimally learn through authentic activities that take place within situated contexts of real-world communities of practice. Such activities allow learners to acquire “not only the skillful knowledge, but also the facility to engage successfully in the discourse, norms and practices of the particular community of practice” (Billett, 1996, p. 266). When applied to the academy, a socio-cultural understanding of learning allows educators to view academic disciplines as unique cultures that include unique information practices into which students can be enculturated through situated learning opportunities.

Socio-cultural approaches to teaching and learning are not new in themselves, but have roots in philosophers and social theorists as diverse as John Dewey, Lev Vygotsky, and Pierre Bourdieu among others. By the late 1990s, however, they began to seriously challenge cognitive theories of learning and instruction – views that generally see learning as the acquisition of information about, and rules belonging to, a subject or area of practice that are then applied by learners within situated contexts (Hodkinson, Biesta, & James, 2008).

Concurrently, librarians and information theorists have sought to bring socio-cultural learning theory to bear on our field, particularly to expand our understanding of information literacy (IL). Tuominen, Savolainen and Talja (2005) provide one of the most comprehensive analyses of information literacy from a socio-cultural perspective. Expanding on what they call the “sociotechnical” nature of information literacy, they note that “a situated understanding of learning and learning requirements proposes that information competencies cannot be taught ‘for

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3 life' independent of the practical domains and tasks in which they are used and that usually
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5 involve a complex system of social relationships and work organization" (Tuominen, Savolainen
6
7 and Talja, 2005, p. 330-331). Kautto and Talja's (2007) and Woolwine's (2010) studies of
8
9 information evaluation practices within various disciplines show how such practices differ across
10
11 "academic tribes" (Kautto and Talja, 2007, p. 54 drawing on Becher, 1989) as a result of the
12
13 different disciplinary cultures into which scholars are socialized. Lloyd's extensive work (2003,
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15 2005, 2007, 2010), while primarily focused on areas of information practice outside the
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17 academy, has increased our access to theoretical perspectives on the situated nature of
18
19 information literacy, perspectives that will continue to influence academic librarians.
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25 The authors believe that a socio-cultural approach to learning, particularly one informed
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27 by "situated learning" theory, provides a way for librarians to move forward with disciplinary
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29 faculty on their "own turf," so to say, in order to improve information literacy learning
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31 opportunities where students spend most of their time: in the disciplinary classroom and engaged
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33 in disciplinary practices and assignments. Yet with the exception of Wang's (2010, 2011) model
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35 for integrating information literacy in the disciplines, which we'll consider below, there is
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37 relatively little guidance for librarians looking to situate information literacy learning
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39 opportunities in the disciplines. This article therefore seeks to complement existing theories and
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41 practical approaches for situating information literacy in disciplines by putting forward a
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43 systematic, practical model developed by the City University of New York. The "CUNY model,"
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45 as we will refer to it, positions librarians as "curricular consultants" through the use of
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47 disciplinary faculty focus groups in order for librarians and disciplinary faculty to then
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49 collaboratively design authentic, situated information literacy learning opportunities (City
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51 University of New York, 2014). The first half of the article will begin by providing a brief
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3 overview of the origins and development of the situated learning approach to education. We will
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5 then turn to some of the barriers to situating information literacy instruction in the disciplines
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7
8 and consider how a more robust conception of the nature of disciplines may help librarians move
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10 beyond marketing IL to the disciplines. The second half of the article will present the CUNY
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12 model in detail along with preliminary results from its implementation.
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17 **Situated Learning and the Relationship of IL to the Disciplines**

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20 Situated learning, that is, learning which takes place within the situated context of a
21
22 community of practice, has its modern roots in the research of Jean Lave whose analysis of
23
24 apprenticeship learning has come to be seen by socio-cultural learning theorists as potentially
25
26 paradigmatic for understanding learning in general. Lave (1988), and her subsequent work with
27
28 Etienne Wenger (Lave and Wenger, 1991), returned educational theorists' attention to informal,
29
30 "traditional" ways of knowledge acquisition that had become marginalized by an earlier
31
32 generation of educational psychologists. Lave and Wenger (1991) describe a "Legitimate
33
34 Peripheral Participation" by which newcomers to a subject or activity become full participants in
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36 its sociocultural practice. Rather than viewing learning as individual, internalized and cerebral,
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38 the authors see learning as occurring through participation in a culture of practice.
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44 Brown, Collins, and Duguid (1989) applied Lave's work to the formal school
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46 environment. Expounding on situated learning, they stated that student abilities and tools,
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48 learned without an understanding of their academic culture, are rendered useless in practice.
49
50 With regard to students, the authors argued: "They need to be exposed to the use of a domain's
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52 conceptual tools in authentic activity—to teachers acting as practitioners and using these tools in
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54 wrestling with problems of the world" (p. 34). Brown, Collins, and Duguid suggested that
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3 students who are educated within what they call a “cognitive apprenticeship” that takes seriously
4 the roles of enculturation and activity in learning are more likely to become graduates who
5 practice their disciplines rather than just knowing about them. Within formal educational
6 environments, situated learning therefore calls for a “learning curriculum” (as opposed to a
7 “teaching curriculum”), one that determines situated opportunities or goals for learning and then
8 uses them in order to enhance student participation in learning to become part of a particular
9 culture.
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20 Yet, disciplinary faculty and librarians alike have long viewed their disciplines as bodies
21 of knowledge to teach (thus the predominance of the lecture in the disciplinary classroom and
22 assignment-related research instruction in the library) rather than as cultures within which
23 inquiry, discovery and debate shape knowledge in a never-ending process of flux. But if
24 education were simply the passing on of a body of knowledge, disciplinary faculty would
25 scarcely be needed, since knowledge is already freely available to anyone with an internet
26 connection. We could simply tell students, “Memorize these things, and we’ll give you an
27 examination at the end.” As one of the authors has argued elsewhere: “To produce graduates
28 filled with facts but inept at solving problems and advancing knowledge is increasingly a
29 ludicrous proposition.” (Badke, 2013, p. 70).
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43 Disciplinary faculty and librarians know, however, that content knowledge is passed on
44 to students through the filter of the disciplinary faculty member’s expertise. Disciplinary
45 expertise is far more than content knowledge. It encompasses the wisdom that comes with
46 having worked with knowledge and done research such that knowledge is taught out of its
47 broader culture (Badke, 2012, p.126-127). While many disciplinary faculty are now using much
48 more active forms of teaching and learning in which content dissemination is tempered by
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3 inquiry, project-based learning, and so on, the problem all of us face as educators is that students
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5 are not enculturating well and are not being given sufficient opportunities to practice the culture
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7 by learning to do research in a mentored setting. Were they, the findings of studies into higher
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9 education student research ability would not be so disheartening (see the work of Project
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11 Information Literacy, 2014). Current research analyzing the 2004-2012 “The Changing
12
13 Academic Profession (CAP)” survey would seem to give us an explanation. While 99% of
14
15 American faculty surveyed report having used lecture as an instructional modality, only 55%
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17 report having used project based modalities and 39% practice or lab-based modalities to facilitate
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19 learning (Huang, Table 4.4, p. 53).
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25 The establishment of IL as an independent LIS construct and discipline in its own right
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27 (Johnston and Webber, 2006) has not helped students to acquire the kinds of information
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29 practices characteristic of disciplinary experts as Meola (2004) has pointed out with respect to
30
31 information evaluation. The field has provided many analyses to explain how and why
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33 “information literacy” has become an important Library/Information Science (LIS) disciplinary
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35 construct and for how we’ve come to emphasize “generic” information literacy instruction over
36
37 “situated” (Marcum, 2002; Meola, 2004; Harris, 2008; O’Connor, 2009; Spiranec and Zorica,
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39 2010; Lipponen, 2010; Farrell, 2012). By privileging librarian-defined research competencies
40
41 and decontextualized critical thinking skills we have neglected to develop the kinds of learning
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43 opportunities that position students as apprentice practitioners of the disciplines. With respect to
44
45 disciplinary faculty, librarians need not go so far as Wilder (2005) and reject information literacy
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47 outright to recognize that the LIS IL construct has posed significant barriers to working with the
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49 disciplines. Primarily, it has forced librarians to “market” information literacy to practicing
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51 disciplinary researchers (Brasley, 2008). Librarians have turned to various practical and
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3 theoretical perspectives to generate tactics by which to market IL to the disciplines. These
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5 include framing IL as central to the kinds of critical thinking needed for the workplace (Head,
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7 Van Hoeck, Eschler, & Fullteron, 2013) and as a liberal or liberatory art (Shapiro and Hughes,
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9 1996; Ward 2006; see also the growing critical information literacy literature, including the
10
11 essays in Accardi, Drabinski, & Kumbier, 2010). We've even tried to sell IL back to the
12
13 disciplinary researchers from whom we derived the concept as if complex, embodied information
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15 practices weren't already a vital part of the disciplines themselves (Association of College and
16
17 Research Libraries, 2015, p. 2).

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22 Yet despite librarians best efforts to make the most of these tactics, and despite the
23
24 promises and even successes of pedagogical tactics such as embedding information literacy
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26 instruction (Kvenild and Calkins, 2011) and the increasing number of credit bearing information
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28 literacy courses, "IL has not yet become a priority" for faculty in the disciplines (McGuinness,
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30 2006, p. 580). As Saunders (2012) notes, it continues to be the case that "many colleges and
31
32 universities are not moving beyond one-shot, course-level library instruction sessions to integrate
33
34 information literacy into their curricula at the program and institutional levels" (p. 226).

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39 However, McGuinness' important 2006 study of disciplinary faculty attitudes about
40
41 information literacy makes clear that faculty in the disciplines do in fact see information
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43 practices as important aspects of disciplinarity. Her work shows that faculty believe disciplinary
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45 information skills are acquired by a kind of "learning by doing" (p. 580) – that is to say, through
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47 the situated information practices of the disciplines themselves. In other words, disciplinary
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49 practitioners value what librarians call "information literacy." They simply don't separate it from
50
51 the socio-cultural practices that constitute the discipline nor do they conceptualize those practices
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53 under the rubric of "information literacy." This makes sense given that practitioners of
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3 disciplines do not curate information or simply learn about the topics with which they engage.
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5 Rather they actually *do the work of* their disciplines, much of which involves information of
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7 various sorts, with a view to advancing them.
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10 Simmons (2005) has called on librarians to become “disciplinary discourse mediators”
11
12 who build bridges between students and the socio-cultural norms of disciplinary information
13
14 practices. If librarians are to move beyond marketing IL to the disciplines and become central to
15
16 disciplinary education, we need more than tactics. Librarians know that disciplinary faculty
17
18 “own” the disciplinary curricula. Given that fact, a successful strategy for increasing and
19
20 enhancing situated IL learning opportunities must be based in an understanding of what
21
22 disciplines are and how information practices are a part of them.
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27 While there are many ways the disciplines can be conceptualized, the authors suggest that
28
29 three essential elements comprise a discipline and give its information practices meaning when it
30
31 is seen as a dynamic and changing community enterprise: epistemology, metanarrative, and
32
33 methodology.
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36 “Epistemology” considers the nature of the sources of information disciplinary
37
38 practitioners value in a discipline (Van Gigch, 2002a, 2002b). From an epistemological
39
40 standpoint, we might ask questions like: *What are the important sources of disciplinary*
41
42 *information? What forms do they take? Why are the information sources disciplinary*
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44 *practitioners favor significant to that discipline? How do those belonging to a discipline*
45
46 *determine what sources are reliable/valuable and what are not?* Each discipline is resourced by
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48 specialized information from origins and channels that are well known. Here we are not
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50 considering the actual content of the discipline but the process by which it is informed and the
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52 reasons why it values some information sources and discounts others.
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3 Kaptizke (2003) argued that information can never be viewed in a vacuum but exists within a
4 context that defines it in special ways and determines its value. Epistemology within the
5 disciplines might be understood in her terms as an already present, tacit form of the
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10 “hyperliteracy” she believes allows users of information to understand how information is
11
12 shaped by the environment in which it resides.
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15 “Metanarrative” is a cultural concept involving the beliefs and values of the discipline
16 that shape it to be what it is. (English, 1993; Pedykowski, 2003). It is, essentially, “our story,”
17 the overarching narrative those in a discipline live by. Here you will find the reasons why the
18 discipline exists as well as the principles of thought and conduct that give it coherence. Every
19 discipline, consciously or subconsciously carries a metanarrative that gives its members a sense
20 of identity. While Postmodern theorists, such as Lyotard (1984), have argued that there are no
21 longer single metanarratives in disciplines, in practical terms every discipline still retains a
22 culture, even if there are variations in it. Graham and Doherty (1992), for example, point out
23 that even the Postmodern rejection of metanarratives relies upon its own metanarrative to explain
24 itself. For applications of metanarrative to disciplinary understanding, see, for example, Reed
25 (1995), Greenhalgh (2004), and Luke (2005).
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41 Finally, there is method, which is the domain of disciplinary information practice most
42 information literacy instructors see as their main focus. Method is the chosen means by which
43 the discipline does research, evaluates evidence and carries out its discourse. See Gibbons,
44 Limoges, Nowotny, Schwartzman, Scott, & Trow (1994) and Healey (2005).
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50 Taken together, these three elements shape and define a discipline and its information
51 practices. While the growth of multi-disciplinary and interdisciplinary study today may appear to
52 challenge this conception of the nature of disciplines, such ventures find that they too must
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3 identify an epistemology, metanarrative and method, thus essentially making them into new
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5 disciplines with their own socio-culturally specific information practices (Porter and Chubin,
6
7 1985; Nicolini, Mengis, & Swan, 2012).
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10 Information literacy instruction in higher education, if it is to meet the needs of an
11
12 information age that demands skilled handlers of information, must therefore move beyond its
13
14 current status as generic, short-term, and remedial and embrace a more comprehensive
15
16 understanding of IL's situated place within the socio-cultural practices of the disciplines. IL
17
18 must locate itself at the foundation of disciplinary education and be a crucial element of the
19
20 curriculum throughout a student's educational program. Moreover, librarians will need to let go
21
22 of IL as a independent construct and expand our focus from method to include epistemology and
23
24 metanarrative.
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28 Truly situated information literacy will therefore require two essentials: first, that
29
30 students be invited into disciplines, whether by librarians or disciplinary faculty, thereby coming
31
32 to understand deeply the cultures that make disciplines work, and, second, that students do the
33
34 work of disciplinarians by learning how to research within an environment of planned and
35
36 deliberate mentoring. If information literacy were to be fully situated within disciplines, the
37
38 following state of affairs would prevail:
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43 1. Information literacy understood as the information practices belonging to a discipline
44
45 would be a foundational and significant factor through the disciplinary curriculum.
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48 2. Disciplinary faculty would recognize and embrace the view that process (the ability to
49
50 understand the culture of the discipline, handle information in a situated way, and do research
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52 that is like that done by disciplinarians) is as essential as content.
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3. Formative assessment that is focused on process as much as content would be virtually universal within the curriculum so that students were apprenticed or mentored in the ways of the discipline and the information skills it requires. Close reading of key works, detailed instruction regarding the discipline's values, and faceted assignments evaluated for process as well as content would build student ability to do the work of the disciplines rather than just learning about them.

4. Librarians would become a much more significant part of student education as faculty and librarians work together in designing curriculum, wording assignments, and determining rubrics for assessment of student research abilities.

Situating Information Literacy in the Disciplines: Practical Approaches

While Talja (2010), Lipponen (2010), and others have directed the IL field's attention to the potential benefits of situated learning theory, relatively little has been written in the academic librarianship literature surrounding IL about how academic librarians might strategically work with disciplinary faculty to fully situate information literacy within the disciplines.

Simons, Young, and Gibson (2000) draw on Lave's notion of situated learning, but locate the library as the primary "situation" in which students learn information literacy skills, noting that the context in which they sought to apply the theory, the New Century College at George Mason University, is a non-disciplinary educational community where "instead of 'learning a discipline,' students are asked to become competent in...broad areas that cut across subjects and are designed to be timeless and conceptual" (p. 128). Such an educational context obviates the need to work with disciplinary faculty to extend the reach of librarians into disciplinary curricula. Nichols (2009) has applied the concept of situated cognition to information literacy

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3 instruction from a disciplinary perspective, noting that “the most important task of an
4 undergraduate student is to learn to be a member of the discipline community, to tap into the
5 knowledge and practice embodied in that community” (p. 528). In order to accomplish this,
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8 Nichols posits that there are “3 directions” that a student must take in his or her education to
9
10 acculturate into a discipline: movement toward disciplinary production, toward learning about
11
12 their subject, and toward participation in a scholarly or professional community. Nichols’
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14 approach, similar to Simons, Young and Gibson, is designed to be of use to librarians. Though it
15
16 serves to introduce students to aspects of learning within the disciplines through library-centric
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18 learning activities, it does not to help academic librarians situate information literacy learning
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20 opportunities within the disciplines themselves.
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27 Wang’s (2010, 2011) information literacy integration model (**Figure 1**) provides a
28
29 comprehensive road map for librarians to follow when attempting to situate information literacy
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31 learning opportunities within the disciplines. Wang suggests that successful information literacy
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33 integration results from “working groups” comprised of the various stakeholders concerned with
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35 student IL skill acquisition: librarians, academic department chairs, course coordinators, various
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37 information technology and administrative and academic support personnel, etc. In these
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39 working groups, librarians, disciplinary faculty, and others discuss the importance of information
40
41 literacy guidelines and frameworks of various sorts (institutional, departmental, national, etc.).
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44 From a shared understanding of IL’s importance, working group participants subsequently
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46 identify and design learning opportunities that allow students to develop information literacy
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48 skills, with all sharing educational responsibilities.
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53 **INSERT FIGURE 1 HERE**
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3 Wang's model, while promising, holds onto generic conceptions of information literacy
4 even as she calls for socio-cultural responsiveness. Her model positions librarians as information
5 literacy experts who share their specialized expertise with disciplinary faculty and others, who
6 are themselves experts in various areas, in order to create the learning opportunities instructional
7 partners need to meet the objectives and outcomes articulated in the IL guidelines to which the
8 working group has committed. While the authors believe such an approach can be useful to
9 librarians, we think that it may pose challenges to many librarians working in institutions that do
10 not lend themselves to such involved, large-scale committee work. Wang's model requires
11 librarians to take a "direct" or "engineering" approach to change making (Kay, 2010), an
12 approach that is most successful in situations with few variables over which the change agent has
13 a certain amount of control and where the institutional culture lends itself to joint problem
14 solving. Wang has developed and piloted her model within an engineering program (2010),
15 which may be the ideal socio-cultural context for its success. However, as her more recent work
16 has shown, her model requires that disciplinary faculty and others first buy in to the importance
17 of the LIS information literacy construct and of her information literacy integration model itself
18 (Moselen and Wang, 2014).

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21 We believe that most librarians find themselves in situations where disciplinary faculty
22 are not open to having their curriculum engineered through a collaborative process and where the
23 disciplinary cultures pose more variables than librarians can control. In such situations librarians
24 may find Wang's model difficult to implement and in the attempt will face same barriers they
25 encounter when attempting to market or otherwise impose generic IL standards:
26
27 incomprehension, territorialism, and competing visions of expertise that serve to exclude
28 librarians, in the minds of many disciplinary faculty, from shared educational roles.

Situating Information Literacy in the Disciplines – The CUNY Model

The CUNY information literacy integration model (**Figure 2**) seeks to give librarians an “indirect” or “oblique” strategy (Kay, 2010) for situating information literacy in the disciplines. Rather than seeking to “engineer” curriculum, our strategy relies on conducting focus group discussions with disciplinary faculty. Through this process disciplinary faculty come to see librarians as peer educators capable of answering questions or providing feedback about curriculum. Our approach seeks to place the motives for curricular improvement within the disciplinary context by bringing to awareness any gaps in disciplinary faculty’s goals for student learning in the area of situated information practices. The model thereby avoids the use of any IL standards or frameworks that must be discussed with or marketed to disciplinary faculty. Librarians who take this approach thus position disciplinary faculty as “information literacy” experts, as socio-cultural theory supports, and see the disciplines as owners of not one, but multiple kinds of discipline specific “information literacies.”

INSERT FIGURE 2 HERE

The focus group process put forward by the CUNY model encourages the use of phenomenographic interview methods that prompt interviewees to describe how particular phenomena – actual or desired – appear or should appear to them. Through the use of neutral questions, those interviewed are allowed to talk about a phenomenon from a number of perspectives such that a picture of the phenomenon emerges that reflects the unique point of view of the interviewees (Limberg, 2000, 2008). Phenomenography has become a popular method within library and information science research and has been most often used by researchers to uncover disciplinary understandings of information literacy and as a way to allow

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3 users of information to describe how different phenomena appear to them in the course of their
4 information seeking and use (Bruce, 1999; Webber, Boon and Johnston, 2005; Boon, Johnston
5 and Webber, 2007; Kautto and Talja, 2007; Woolwine, 2010).
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10 Using matrices we've established (**FIGURE 3**) as our starting point, we can generate
11 phenomenographic interview questions that allow disciplinary faculty within our focus group
12 sessions toward describing disciplinarity from an "information literacy" perspective. By
13 analyzing statements made by disciplinary faculty about how they hope their graduates will
14 behave when coping with or working within complex information landscapes, we can then fill in
15 the matrices with the kinds of skills, fluencies, and habits of mind that paint a picture of the
16 information literate student within the discipline. The matrices, based in the work of Lloyd
17 (2010) and Lupton and Bruce (2010) serve the primary function of helping us isolate the
18 disciplinary information practices faculty seek to develop in their students from the larger
19 practice of the discipline as a whole.
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34 Following Lloyd (2010), the CUNY model borrows the idea that the constellation of
35 behaviors typically designated as indicative of "information literacy" are performed in socio-
36 cultural "information landscapes," "situations" in which practice takes place. As Lloyd notes:
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40 All information landscapes are constructed and grounded through collaborative practice
41 and maintained through membership. Consequently, they are socially produced and while
42 they may appear less tangible than a physical landscape, the act of being in it [sic] is just
43 as real. Like a physical landscape, an information landscape can have a varied
44 topography, and can be inhabited by a number of groups who while sharing a central
45 language and narrative have specific information and knowledge that make them unique
46 subcommunities. (Lloyd, 2010, p. 139)
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3 The primary landscapes she addresses in her work, the “educational,” “workplace” and
4 “community,” are the broad socio-cultural environments to which most people are acculturated
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6 at one time or another in their lives. We have borrowed these three landscapes for our matrix,
7
8 though for our purposes we have translated the terms “educational” into the category of
9
10 “academic,” and “community” into the category of “everyday life,” in order to help us generate
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12 a sufficiently complex rubric by which to identify the primary situations for which higher
13
14 education seeks to prepare students.
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20 From Lupton and Bruce (2010) the CUNY model adopts the GeST (Generic, Situated,
21
22 Transformative) framework, which they describe as “windows” on “information literacy
23
24 worlds.” Lupton and Bruce argue that the term “information literacy” can productively be seen
25
26 as a plural conceptual construct grounded in complementary learning theories. As they note, the
27
28 literacy field has advanced three main learning theories by which to understand the nature of
29
30 literacy: behavioral, sociocultural, and transformative, or what librarians more commonly refer to
31
32 as “critical.” Theorists who have taken a set of behavioral assumptions about the nature of
33
34 learning as a starting point have posited that literacy is acquired by learners as a set of generic,
35
36 measurable skills. A learner is literate from this perspective when he or she can demonstrate a
37
38 mastery of those skills. Theorists who begin with sociocultural assumptions about the nature of
39
40 learning, as we have earlier described, typically posit that literacy is acquired within authentic
41
42 social contexts. A learner is literate from this perspective when he or she is able to perform
43
44 competently within such contexts. Finally, Lupton and Bruce point out that theorists who take
45
46 what they call a transformative approach to learning see literacy as acquired through “engaging
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48 in collaborative and participatory information practices that critique society and lead to social
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3 action” (Lupton and Bruce 2010, Table 1.5, p.14). A learner is literate from this perspective
4
5 when he or she able to “challenge the status quo and effect social change” (Ibid., p. 5).
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7

8 By combining Lupton and Bruce’s framework with the landscape framework of Lloyd,
9
10 we’ve created a robust set of matrices by which to look at disciplinary behavior from multiple
11
12 “information literacy” perspectives.
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15 **INSERT FIGURE 3 HERE**

16

17 Once we have elicited and made explicit the tacit disciplinary information practices
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19 faculty desire for their students, the next step is to work with disciplinary faculty to design
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21 situated learning opportunities within their curriculum. A number of authors in the LIS field have
22
23 offered suggestions for how to leverage the power of formal higher education learning
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25 environments to facilitate embodied skill acquisition by analyzing skill acquisition into stages or
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27 phases of development (Nichols, 2009; Thompson and Lathey, 2013). While it would be a
28
29 mistake to universalize such theories and argue that embodied disciplinarity is best acquired in
30
31 some sort of mechanically staged process, our model rests on the belief that such approaches are
32
33 heuristically helpful to educators looking to design curriculum. The socio-cultural learning
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35 theory model that has informed much of the development of CUNY’s information literacy model
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37 is the five-stage model of skill development put forward by Hubert Dreyfus (Farrell, 2012, 2013;
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39 Dreyfus and Dreyfus, 1988; Dreyfus, 2006).
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48 **Pilot Implementation of the Model and Preliminary Results**

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50 Over the Spring and Fall semesters of 2014, librarians at Lehman College, CUNY piloted
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52 the CUNY model with three members of their college’s Sociology department. At the time of
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54 this writing, additional libraries within the CUNY system are at various stages of piloting the
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2
3 model as well. While the purpose of this article is to present a model for working with academic
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5 disciplines to situate information literacy learning opportunities within disciplinary curricula, we
6
7 will here give an overview of the pilot design implemented at Lehman College and discuss our
8
9 preliminary outcomes, as well as the direction our curricular work is heading. These findings will
10
11 be presented more fully in series of future articles.
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17 *Pilot Methodology*

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19
20 Researchers at Lehman College developed four categories of questions (**Appendix 1**) to
21
22 guide their interviews. The first set of questions was designed to allow the librarians to
23
24 understand what, if any, concept of “information literacy” the Sociology Faculty interviewed
25
26 possessed about their own research practices. These questions also served to give the librarians a
27
28 sense of what socio-cultural practices constitute active research of professional sociologists. The
29
30 latter three groups of questions aligned with the matrices outlined above and were designed to
31
32 allow the disciplinary faculty to describe the embodied information practices they seek to
33
34 cultivate in their students from the perspective of the academic, workplace, and everyday life
35
36 environments in which Lehman College Sociology graduates live.
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40
41 Three interviews were planned and conducted. While our intention was for each
42
43 interview to last for an hour and a half, the interviews generally ran longer than that, one up to
44
45 two hours. Moreover, these interviews became more of a conversation between the librarians and
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47 disciplinary faculty and less of a traditional interview, our formal list of questions in practice
48
49 serving more as prompts to deeper reflection and dialogue and touchstones to refer back to after
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51 productive digressions. The interviews were recorded and subsequently transcribed during the
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53 summer of 2014. In the fall of 2014, the librarians performed a basic manual content analysis on
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3 the transcripts using the matrices as their guide to isolate significant and repeated statements.

4
5 This work was performed asynchronously online using Google Docs after the librarians normed
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7
8 their understanding of the matrix categories.
9

10 After isolating salient statements, the librarians grouped those statements according to the
11
12 matrices, synthesizing where necessary statements of similar natures, then refined the
13
14 interviewees' natural language statements into academic outcomes statements. Librarians
15
16 identified 163 learning outcomes within the focus group data of desired information behaviors
17
18 described by the Sociology faculty members. In the latter part of fall 2014, these outcomes
19
20 statements were organized by matrix category and presented to the three Sociology faculty
21
22 members for review, who then distributed them to the rest of their department. The librarians and
23
24 the three sociologists then met again to prioritize those outcomes and consider which of the
25
26 outcomes they would initially address from a curricular perspective.
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34 *Reflections on Pilot Outcomes*

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36 Librarians and disciplinary faculty in the Sociology department at Lehman College are at
37
38 present actively engaged in developing new, information-rich learning opportunities aimed at
39
40 developing discipline specific information behaviors within the situated context of the
41
42 disciplinary curriculum. Perhaps the most significant result from our current curricular
43
44 discussion is the following Academic (Generic) outcome:
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48 Can identify different kinds of sociological information and understands how they are
49 used in different ways to do different kinds of work.

- 50 1. Empirical information: data & social observation
- 51 2. Umbrella theories (e.g., Functionalism, Conflict Theory, Interactionism, Marx,
52 Durkheim, etc.)
- 53 3. Mid-level theories (e.g., Goffman, Merton)
- 54 4. Sociological/Social "factors" – things in society that can be seen through a
55 theoretical lens (i.e. the social factors that "cause" divorce.)
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6 This outcome was arrived at through an analysis of conversations in which the librarians
7
8 helped the sociologists make explicit certain tacit assumptions about the nature of sociological
9
10 information that had not been consciously articulated by any of the parties previously. Further
11
12 discussion during the focus group sessions of these “kinds” of information led the sociology
13
14 faculty to consider the “situated” behaviors and “critical” habits of mind their students must
15
16 possess if they are to make sense of their worlds in a sociological way. These later discussions
17
18 resulted in some of the following outcomes:
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20

21
22 Develops hypotheses grounded in past research in the field then tests those hypotheses
23
24 with new or accessed data to produce new information. [**Academic (Situated)**]
25

26 Understands how creative discoveries take place within the context of a sociologist’s
27
28 knowledge of the field and his or her independent research. [**Academic (Critical)**]
29

30 Can develop a theory to make meaning out of a given set of information or data.
31
32 [**Academic (Critical)**]

33 “Reads” forms of communication within workplaces and can find the resources to “code
34
35 switch” as needed. [**Workplace (Situated)**]
36

37 Locates data and thinks about variables useful for solving problems faced in the
38
39 workplace. [**Workplace (Situated)**]

40 Can distance him or herself from the immediate work situation in order to look at and
41
42 construct meaning about the situation from a sociological perspective. [**Workplace**
43
44 **(Critical)**]

45 Can investigate and make sense of contemporary social issues of import to her life (e.g.
46
47 gentrification, becoming middle class). [**Everyday Life (Situated)**]

48 Interprets data presented to them to inform choices (e.g. voting, consumerism, questions
49
50 where to live, where to send children to school, etc.). [**Everyday Life (Situated)**]
51

52 Identifies the sociological factors that shape her home life in order to reconstruct that life
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54 for herself or her future family with greater agency. [**Everyday Life (Critical)**]
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3 After reflecting on all of the outcomes statements with the librarians at the end of the fall
4
5 2014 semester, the sociologists decided that a nexus of outcomes related to the interplay of
6
7 reading, writing, and the use of both theoretical and quantitative information in the research
8
9 process would serve as the starting point for exploring the creation of new learning opportunities.
10
11 During this same meeting, Sociology faculty provided the librarians with a curriculum map of
12
13 their program and a list of course descriptions for the librarians to use as they think about
14
15 curricular interventions. The parties will reconvene in the spring 2015 semester to discuss
16
17 concrete suggestions for curricular enhancements.
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22 The librarians and sociologists envision a series of scaffolded learning opportunities in
23
24 line with Dreyfus' skill development model that will take place both in required courses in the
25
26 major as well as in elective courses. To ensure that the diverse faculty, both full-time and
27
28 adjunct, teaching these courses are able to offer similar learning opportunities across courses and
29
30 sections, the group decided that activities would be designed to be content neutral and modular in
31
32 order to allow faculty to "drag and drop" the activities and customize them based on their course-
33
34 specific needs while still meeting the larger goals detailed in the matrices.
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39 What the library's formal instructional role will be, and what pedagogical tactics we
40
41 ultimately adopt as we move forward at Lehman College, remain to be seen. It may well be that
42
43 the kinds of learning that lead to what librarians call "information literacy" and what disciplinary
44
45 faculty see as part of the embodied practice of the discipline will be fully located within the
46
47 situated context of the Sociology classroom and require little librarian intervention apart from
48
49 instructional design. Or we may find that our Sociology colleagues will see opportunities for
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51 librarian led instruction through the college's online learning management system, opportunities
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53 for embedding librarians in courses where students are engaged in sociological fieldwork, or
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3 other points where students may benefit from contact with librarians or librarian-designed
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5 learning objects.
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8 We can say with confidence that from a practical point of view, the “inside-out” approach
9
10 afforded by the CUNY model has successfully positioned librarians at Lehman College to situate
11
12 information literacy within the Sociology curriculum. This is not to say that another approach
13
14 might not have worked just as well. However, we believe it is unlikely that an “outside in”
15
16 approach would have worked within our institutional context to yield the over 150 discipline
17
18 specific learning outcomes that have now been defined and are, in an important sense, “owned”
19
20 by our college’s Sociology department. While we have had a cordial relationship with the
21
22 Sociology department for many years, our instructional relationship has been confined to two
23
24 Sociology courses, one at an introductory level and one at a more advanced level, that require
25
26 students to complete basic research oriented assignments. Instruction for these courses has been
27
28 conducted in single session, “one-shot” workshops. The shift toward co-designing modular
29
30 assignments scaffolded across courses is a promising departure from these instructional modes,
31
32 one that we believe will provide more opportunities for students to better enculturate into the
33
34 information practices characteristic of the discipline and needed for the kinds of workplaces they
35
36 will eventually enter.
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43 While the main focus of the CUNY model is to allow librarians to reframe the
44
45 instructional relationship between the library and the academic disciplines, a change we feel
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47 we’ve accomplished with our Sociology department even at this early stage in our work, we have
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49 also found the model to lead to theoretical insights that have proved both educational and
50
51 provided evidence for the situated character of information literacy in disciplinary contexts.
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54 **Appendix 2** provides a snapshot of part of our first conversation with Sociology faculty. From it
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3 we determined that our colleagues did not have a working concept of “information literacy,” a
4
5 fact all the more telling given that the curriculum map they later provided us includes a generic
6
7 “information literacy” outcome, which they have, at least for the purpose of meeting assessment
8
9 requirements, professed to teach. What this tells us, and what other aspects of our transcripts
10
11 support, is that information literacy is part and parcel of embodied sociological disciplinarity as
12
13 our colleagues conceive of it and as they intend their students to practice it, a finding in line with
14
15 other socio-cultural analyses of disciplinary information behaviors (Becher, 1989; Wells, 1999;
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17 Hodkinson, Biesta, & James, 2008).
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22 **Appendix 2** also points to the way in which our college’s uniquely situated Sociology
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24 program sees its mission. Sociology faculty acknowledge that the majority of their students are
25
26 not aiming to become professional sociologists. In our focus group conversation centered on the
27
28 workplace, our colleagues noted that most of their students seek employment in “helping
29
30 professions”: social work, education, various forms of health care, and so forth. The learning
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32 outcomes arrived at through our discussions thereby reflect not a set of generic outcomes for
33
34 sociology programs in general, but a socio-culturally specific set of outcomes for who our
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36 faculty want their particular students to be based on their understanding both of their own
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38 professional sociological expectations and the practical needs of workforce bound students. As
39
40 such, they will inform assignment design in ways that allow for the “legitimate peripheral
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42 participation” in workplace practices characteristic of the specific workplaces for which they are
43
44 being prepared. We would therefore expect other librarians at other institutions working with
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46 their sociology faculty to arrive at their own unique outcomes. We envision testing this
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48 hypothesis by conducting similar work at other institutions to see not just how information
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50 behaviors are defined within the socio-cultural contexts of disciplines, but how the disciplines
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3 themselves differently conceive their educational mission based on their unique institutional
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5 contexts.
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10 **Conclusion**

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12 We are not here advocating for one approach to situating information literacy in the
13 disciplines over another. Nor are we suggesting librarians abandon traditional “one-shot”
14 instruction or other “library owned” approaches to teaching students, especially novice students,
15 the generic concepts that we as a profession have isolated as characteristic of information literate
16 behavior.
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24 Rather, we believe that within the formal learning environments of most institutions of
25 higher education the majority of learning of any sort takes place within disciplinary curricula,
26 curricula that, for the most part, librarians have been kept apart from by the very nature of the
27 information literacy constructs that lead to successful general education instruction.
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34 Nor are we under the belief that our mission as educators is to turn every student into a
35 practicing disciplinary expert. One of the virtues of the CUNY model is its emphasis on having
36 disciplinary faculty articulate information behaviors proper to the different landscapes –
37 academic, workplace, and everyday life – in which their outgoing students will find themselves
38 after college. We recognize that the vast majority of students not only in the authors’ countries of
39 Canada and the United States, but across the world, will find employment in fields outside of the
40 academy. We are simply suggesting that the CUNY model might be an effective approach to
41 position information literacy as integral part of disciplinary socialization.
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53 Students who have been enculturated or socialized, even partially so, into the embodied
54 information practices of a discipline have the advantage of having learned to become a part of a
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3 community of practice. When students become metacognitively aware of the process of
4 becoming enculturated into a community of practice, they are able to bring that understanding to
5 the diverse communities of practice they desire or may be required to join over their often
6 evolving working lives. Lloyd's (2004, 2005) and other studies (Kirton and Barham, 2005;
7 Somerville and Howard, 2008; Crawford and Irving, 2009) of information literacy in workplace
8 contexts have shown that, academic or otherwise, all workplaces are sites of socio-culturally
9 situated practices. If librarians are to contribute to helping students successfully transition from
10 the academy into workplace communities of practice, we must position ourselves to give
11 students authentic learning experiences that allow them to become a members of the
12 communities of practice they encounter within the academy.
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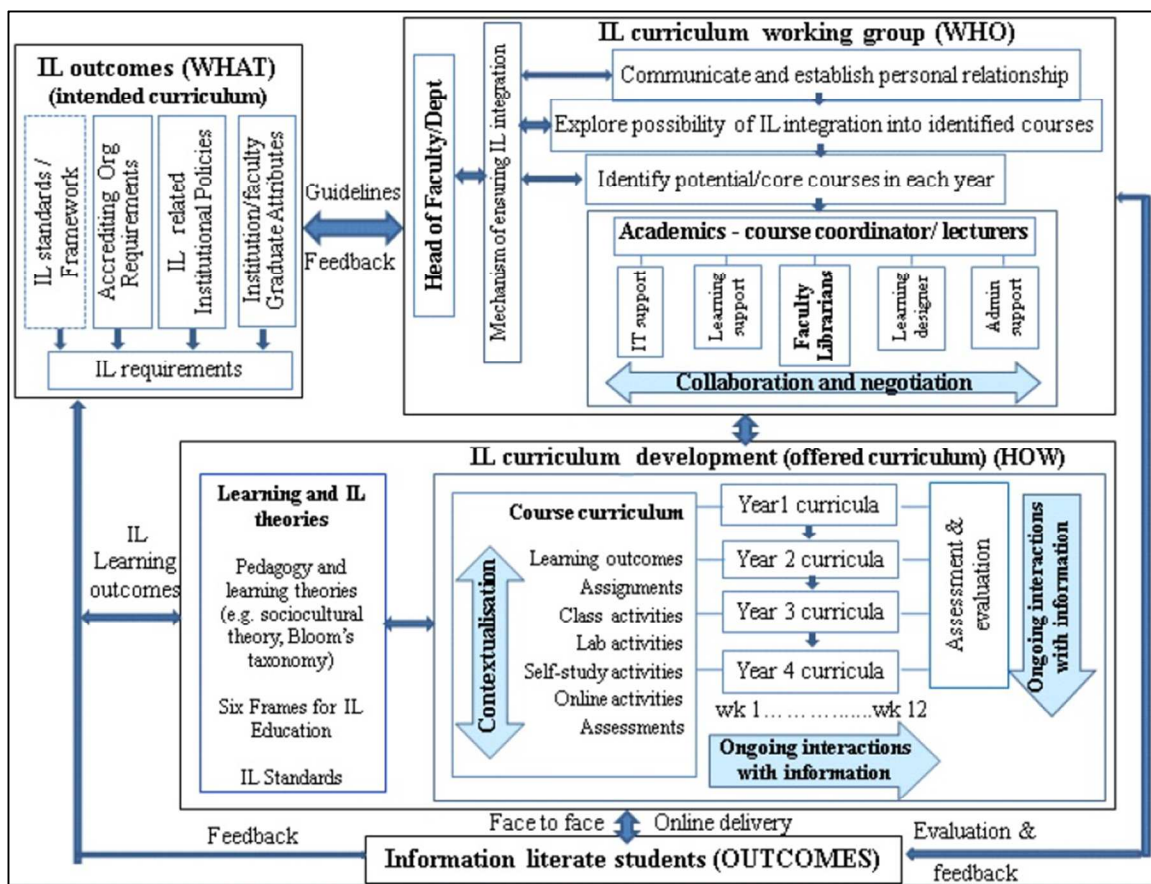


FIGURE 1: Wang's (2011) information literacy integration model

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City University of New York (CUNY) Information Literacy Integration Model

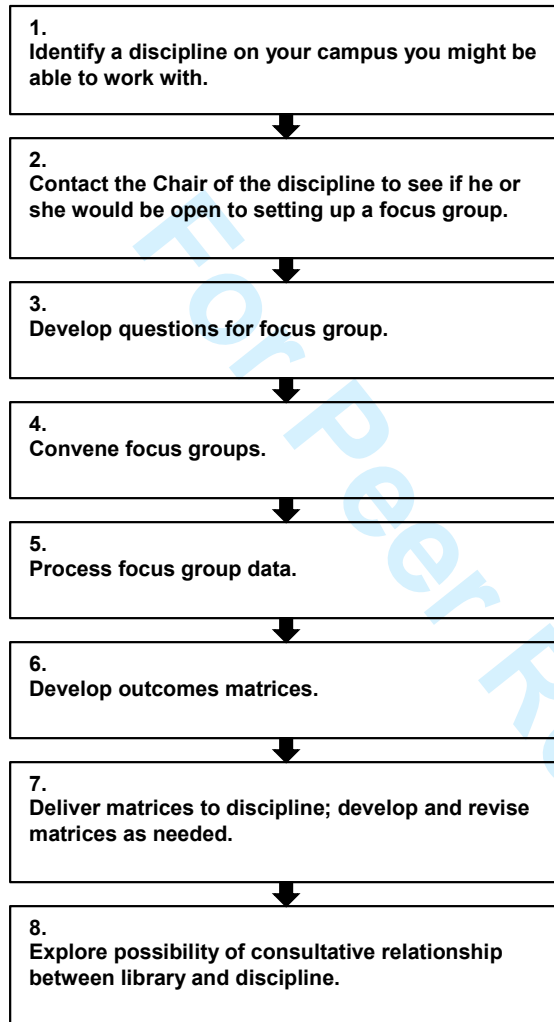


FIGURE 2: CUNY's Information Literacy Integration Model (CUNY, 2014)

	Workplace Landscape	
<p><i>Generic window (skills)</i> Performance indicators – May include things like: can make choices between various online information resources; knowledge of where to find info on current best practices; knowledge of when the open web is not enough and proprietary information sources are needed; ability to determine where information is located in an organization (including people); knowledge management strategies for the workplace.</p>	<p><i>Situated window (fluencies)</i> Observable behaviors – May include things like: selects and uses information based on rhetorical end in-view called for by a workplace situation; can navigate the information culture of a workplace; etc.</p>	<p><i>Critical window (habits of mind)</i> Articulated understandings and transformative abilities – May include things like: understands how information based decisions are influenced by corporate or workplace culture; is aware of professional cognitive biases and how they affect interpretation of information;</p>
<p>Examples A nursing graduate recognizes the importance of currency and the role of historical nursing information for addressing issues in the discipline.</p> <p>A nursing graduate can describe and appropriately use varying types of research to be found in the medical literature, such as cohort studies, randomized controlled trials, and meta-analyses.</p> <p>A programming graduate can evaluate the quality of solutions offered to programming problems on online community discussion boards.</p> <p>A teacher recognizes the need for pedagogical reflection and the acquisition of new modalities for teaching and locates appropriate resources.</p>	<p>Examples A nursing graduate engages in appropriate evidence-based practices within the context of internships, practica, or project/problem based learning activities.</p> <p>A teacher can navigate the structural working environment of her profession at different levels, such as the academic level, union level, district level, and the local school level in order to adapt to professional and pedagogical demands and solve pedagogical problems.</p> <p>A culinary arts graduate is able to use and react to information gathered through his own senses (taste, touch, smell), through coworkers, and through text-based sources (including but not limited to recipes).</p> <p>A nursing graduate engages in the kinds of self-directed learning required not only to keep up with medical literature but also to discern how knowledge is structured in the workplace.</p> <p>A nursing graduate consults with respected practitioners in his/her workplace to develop new understandings of professional practice/new professional knowledge/new professional techniques.</p> <p>A programming graduate turns to the online programming community to solve programming problems when appropriate.</p>	<p>Examples A nursing graduate can place research within its broader medical context, and assess an article's importance in the field.</p> <p>A nursing graduate understands the politics of medical publishing and can determine which research fallacies (such as bias, faulty assumptions, or problematic reasoning) to look out for in articles.</p> <p>A nursing graduate can articulate how institutional and societal ideologies affect clinical practice.</p> <p>A teacher participates in and is aware of new professional trends and pressures on the profession and is able to rapidly navigate change by adapting to trends, new labor demands, educational philosophies and student needs.</p> <p>A teacher is aware and understands the political, social and economic factors which influence curriculum and their professional development.</p> <p>A programming graduate understands how proprietary and open source coding shape the marketplace.</p>

Figure 3: Sample hypothetical matrix for Workplace Landscape (non-discipline specific) – (CUNY, 2014)

General Questions To Prompt Discipline Faculty to Discuss their Understanding of Information Literacy

1. What are the most important kinds of information in your discipline?
2. "Information Literacy" is a library/librarian centered construct. What does your field call information seeking and use skills?
3. What does "information literacy" look like from the perspective of your discipline?
4. How do you define information literacy?
5. How do professionals in your field judge or evaluate the quality of information?
6. How did you learn to find and use information?
7. How does your disciplinary knowledge help you think critically about academia, the workplace, issues that arise in everyday life?
8. How do you use the web for engaging in research for publication? Do you use library resources? Online article repositories?
9. How do you use information in your everyday life? Do you use the web, mobile technologies, or other tools to solve problems that arise in the course of everyday life?

Questions to Prompt Discipline Faculty to Discuss their Expectations for Student IL Performance within the Academic Sphere.

1. What kind of experience with information seeking and use do students bring to your courses early in the program?
2. What do you expect students to be able to do with respect to information seeking and use by the end of your program?
3. In what situations do students need to locate, evaluate, and use information in the course of their progress through your major?
4. What assignments do your faculty use that require students to seek or develop sources of information?
5. What core information seeking and use skills are necessary for a graduate from your program to have if they are to succeed in their first years of graduate school?
6. What habits of mind/forms of critical thinking do you hope your students possess when it comes to thinking about information when they leave your program?
7. How does a knowledge of your discipline help students think critically about issues in the academic sphere?

Questions to Prompt Discipline Faculty to Discuss their Expectations for Student IL Performance within the Workplace.

1. What jobs or forms of employment do students graduating from your major generally go into?
2. What kinds of information seeking and use skills do your students need to successfully perform these jobs?
3. How does your program prepare students for seeking and using information in their future work lives?

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4. In what work situations will your students need to locate, evaluate, and use information in the various fields they are entering?
 5. How does a knowledge of your discipline help students think critically about issues in the workplace?
 6. What information skills or habits of mind related to information use and evaluation do you think employers of your students are looking for in new employees?
 7. What information skills will students need if they are to independently grow on the job?

Questions to Prompt Discipline Faculty to Discuss their Expectations for Student IL Performance within Everyday Life.

1. How does your discipline help students make sense of information needed for making decisions in everyday life?
2. What areas of everyday life does your discipline prepare students to grapple with? (e.g. voting, consumer choices, etc.)
3. What kind of information technologies do students use or study within your discipline?
4. How does the knowledge of these technologies come into play in students' everyday life?
5. How does a knowledge of your discipline help students think critically about issues in everyday life?
6. What information skills will students need if they are to be lifelong learners in their lives outside the academy?
7. How does your discipline allow students to acquire these skills?

Appendix 2: Transcript Excerpt

LIB: ... So I feel like we've been talking kind of about what we in the library would call information literacy. But how do you describe research proficiency or is there a term or a way that you talk about you know somebody who embodies this qualities? What would you say?

SOC 1: I don't know, I wouldn't have said information literate but

Librarian: Yeah that's not something?

SOC 1: Yeah. What would I say?

LIB: Someone that's got skills.

SOC: 2 Skills, research skills, um, I always think of it in terms of the core courses. Once they've mastered the core courses they kind of have what it takes. The core courses are the Sociological imagination, how to read an article, research methods, ways to approach data and formulate questions that you can answer with data. Theory and what the main thinkers in sociology have said about society and then doing the research hands on with the tools that you've learned in your other courses. And that...

SOC 3: Which we don't really have.

SOC 2: Yeah

SOC 3: But if we can get more of the students done with the four required courses before the end of junior year then they actually, that could really make a difference I think. So that's one of my goals.

SOC 2: I mean it's almost like if you think about an assessment matrix or something that they're proficient in these different components.

SOC 3: But it's hard. I mean one thing I'll say is sociology is a hard subject. People think it's an easy subject and for various reasons, but it's not. Actually doing this work is really hard work and so actually when the students are really good are actually good at this stuff then I'm like you should go to graduate school. Right. But on the whole I don't expect undergraduates even at elite schools necessarily to have like total mastery of this kind of work cause it's pretty, it's very, very abstract and not everybody can think that way.

LIB: So your goal is not to get them to mastery. It's to get them to a point of proficiency.

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SOC 3: I'd like to get a percentage of them good enough to be able to go into a graduate program and be successful. And we, I have a small percentage who are. Right. They totally get it and they go off and do great but it'd be nice to have it be a little bigger.

For Peer Review