"Writing Information Literacy" Revisited

Application of Theory to Practice in the Classroom

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Librarians and writing instructors are longtime allies that share the goal of teaching information literacy (IL). The IL concept, however, has been undertheorized in its relationship to writing pedagogy. In a series of articles on writing and IL, Norgaard challenges librarians and writing instructors to engage in an "informed conversation between writing and information literacy as disciplines and fields of endeavor." Removing the usual "and," Norgaard defines "writing information literacy" as "the notion that writing theory and pedagogy can and should have a constitutive influence on our conception of information literacy."[1] He suggests that the IL theory should also have a reciprocal influence on composition pedagogy.

Norgaard describes the basic problem with traditional conceptions of writing and IL:

> If libraries continue to evoke, for writing teachers and their students, images of the quick field trip, the scavenger hunt, the generic, stand-alone tutorial, or the dreary research paper, the fault remains, in large part, rhetoric and composition's failure to adequately theorize the role of libraries and information literacy in its own rhetorical self-understanding and pedagogical practice.[2]

Norgaard places the blame squarely on his own discipline, but he also suggests that librarians must learn from theoretical insights from rhetoric and composition. Norgaard describes the paradigm shifts in writing instruction that have opened possibilities for teaching a more situated, process-oriented, and inquiry-driven rhetoric. Librarians have much to learn from these theoretical contributions. We also have much to learn and offer from our own theoretical tradition. In fact, both IL and rhetoric and composition draw from the same intellectual well, building upon more general pedagogical developments. This shared intellectual history can enliven the practice of both disciplines, creating a "rhetoricized" IL and an "informed" rhetoric.

If writing instructors have undertheorized IL in relation to writing, this is, in part, because of librarians' failure to articulate the contributions that our theoretical tradition can make to rhetoric and composition and, by extension, learning in general. Furthermore, many of the prevailing "pedagogical enactments" of IL, such as Norgaard's generic stand-alone tutorials, scavenger hunts, and dreary research papers, reinforce traditional notions of IL *and* writing, derailing efforts to create a richer instructional practice.[3]

This article describes several pedagogical enactments of

IL that are based on social constructivist and sociocultural learning theory. First, it explores the ways in which librarians and writing instructors at Utah State University collaborate to counter a limited reading of IL through creative learning activities. Then it identifies some of the barriers to creating a more situated IL through a brief, exploratory analysis of the ways in which instructional tools shape differing, even contradictory, understandings of writing and IL. These exploratory case studies are meant to be illustrative of the promises and challenges of true "writing IL."

INFORMING RHETORIC: THEORIES OF INFORMATION LITERACY

Both librarians and writing instructors have explicitly cited the intertwined relationship between IL and writing. Three decades ago, Michael Kleine, a writing instructor, described the "horrors" of the night library, a place where students were "merely copying" and seeing "their purpose as one of lifting and transporting textual substance from one location, the library, to another, their teachers' briefcases." Kleine saw no "searching, analyzing, evaluating, synthesizing, selecting, rejecting, etc."[4] Nearly fifteen years later, librarian Barbara Fister identified the same problem, citing Kleine's image of the night library as one example. Fister writes that library instruction's focus on information retrieval suggests to students "that research consists of the ordered use of tools to locate pieces of information from which research projects can be assembled."[5] Likewise, Norgaard criticizes the dreary research paper, the "'cut-and-paste' assemblage of material drawn from just several sources, supplemented, of course, with a padded bibliography."[6]

While many blame technology for the current "cut-and-paste" mentality of students, there are deeper theoretical and pedagogical issues related to writing, information, and learning that help account for this consistent lament over the past thirty years. The continued resonance of Kleine's night library stems, in part, from a gap between IL theory and practice. Many writing instructors and librarians still conceive of and practice IL from a behavioralist framework. Behavioral theories of education, dominant in the 1950s and 60s, assume that learning is based on precise, well-defined, and measurable behaviors and rules.[7] For IL, behaviorism focuses on information sources and procedures. Librarians teach the "correct" sources and the "correct" order in which to search those sources while discouraging "wrong" approaches, much like the avoidance of "text errors" in writing instruction. Students, for example, should consult general background sources like reference books before exploring the periodical literature.

On the other hand, constructivist approaches emphasize that the prior knowledge of individual learners shape all information seeking, which is conceptualized as a recursive process, with an emphasis on strategies rather than mechanical procedures and rules. Social theories of IL emphasize students' need to understand the social environment of academic disciplines, including disciplinary conventions and ways of knowing.[8] Sociocultural theories recognize that information seeking and use, like learning, are socially mediated practices that occur through activity and between people in highly specific contexts. In this view, learning happens in a community of practice where novices learn to become practitioners and experts mediate the information environment, guiding them toward information that the social community values. Learning is conceived not as a mastery of formal and generic skills, but as expanded participation in a community of practice or activity system.[9] The following case study demonstrates how these pedagogical theories can inform and reform instructional practice at the intersection of composition and IL.

WRITING INFORMATION LITERACY: PEDAGOGICAL ENACTMENTS REVISITED

At Utah State University (USU), librarians and writing instructors have been actively engaged in a process of "writing IL." In 2004, librarians began aligning learning goals for IL and writing with instructional strategies in freshman and sophomore composition classes.[10] Like Norgaard, we concluded that course-integrated instruction was the most fruitful way to create a situated, rhetoricized IL. Building on a strong existing relationship with the USU writing program, we began the alignment process with a needs assessment of IL learning goals, but we delved into deeper collaboration and engagement with a series of conversations about writing IL. In 2005 we hired five USU writing instructors to serve as Information Literacy Fellows for the summer. Our goal was to create new instructional approaches to better integrate IL into both freshman and sophomore writing classes. The program began with discussions of teaching and learning and IL. We used Norgaard's articles as a springboard for discussion and we created a document titled "Writing Information Literacy at USU," which served as a touchstone during our curricular design and implementation process.[11]

Librarians and English instructors created joint learning goals on the basis of "Writing Information Literacy." These goals were focused on developing good questions, exploring a variety of information sources, and evaluating information not only for traditional criteria (such as accuracy) but also relevance and value to the writer's purpose. We incorporated goals related directly to writing, such as attending to audience needs. The following remain the IL learning goals for USU's Introduction to Writing course (English 1010).

1. Students will define their information needs in order to anticipate what they and their audience need to know and to focus, shape, and organize their ideas and writing.
2. Students will use a variety of sources to explore a topic in order to develop an appreciation of different types of information and their purposes.
3. Students will evaluate information for its value, relevance,

and accuracy in order to develop the critical thinking skills of analysis and self-reflection.

4. Students will recognize problems in their own research and writing in order to get assistance and further develop their writing and information literacy skills.[12]

Instructors and librarians then collaborated to create specific lesson plans for use in English 1010 classrooms. Our primary innovation has been the use of problem-based learning to facilitate a more social and situated IL experience.[13] Problem-based learning (PBL) provides students with authentic problems or questions to research. It focuses on the process of making meaning or extending understanding rather than producing a formally correct final product. PBL also highlights the social construction of knowledge as students learn about discipline-specific ways of knowing and communicating and as they develop understanding through collaborative group work.[14] PBL also relies on authentic practice as the vehicle for learning.

One of the PBL projects was the SOS (Save Our Schools) project. For this assignment, students worked in groups to identify a problem with the U.S. education system, learn more about the issue, prepare an annotated bibliography, and present the information to the class. The process involved four class sessions cotaught by a librarian and the course instructor.

1. Session 1: The librarian visits class for twenty minutes and talks about a personally relevant myth of education, such as "girls are bad at math," to explore preconceived ideas about education. The librarian then presents a few information sources that might address that myth to show how various people approach the issue.
2. Session 2: The writing instructor and librarian facilitate a brainstorming session to identify education problems, and the class begins to develop research questions. The librarian helps organize the questions into different groups on the basis of theme, discipline, type of resource needed, etc. The librarian and writing instructor focus the questions on something likely to be manageable for a group project.
3. Session 3: The class spends a period in a library computer lab for group work. Librarians meet with groups to go over worksheets that ask students to describe what they already know about their problem and what they need to know to understand it better. Librarians provide a brief demonstration of how to find an article. Students then break into groups, and librarians and English instructors coach the groups in selecting and searching useful search tools, depending on each group's questions.

Many instructors scheduled an additional follow-up research day, with students working on their projects and the English instructors and librarians coaching them and checking on their progress.

We assessed the long-term impact of the PBL approach in English 1010 through focus groups. Facilitators asked students to reflect on what they learned in English 1010 and how this had or had not prepared them for English 2010. Having participated in PBL exercises, students preferred instruction focused on the real world rather than passive demonstrations. They appreciated the one-on-one help from librarians and reported that they learned a lot about library resources. But students said that they struggled with integrating and synthesizing the information they found and wanted to see a stronger relationship between reading, research, and writing.

We also used the PBL model for English 2010 (Intermediate Writing). In one case the class had to decide whether fast food restaurants should be held accountable for contributing to obesity in America. Students approached the question from various angles: the medical consequences of eating fast food, the economics of the fast food business, and marketing—particularly advertising aimed at children. This provided a concrete focus for exploring how different discourse communities operate, including the questions they ask, the information and knowledge they value, and where and how they communicate within their communities and with the general public.

We evaluated students' reactions to the PBL approach by observing their behavior in class. The librarian and the instructor informally debriefed at the end of each library instruction session, noting where students seemed to be having problems. We also evaluated students' final projects and a required paper in which students reflected on what they had learned.

The librarian and instructor observed that some students were resistant to this mode of research and learning. They looked for articles that summed up exactly what they wanted to say so they could quote that article to prove their point. In their reflective papers, a few students suggested that they felt as though they had failed when they did not find a definitive and clear-cut answer to their research question. Some students noted that they appreciated learning about the library and various sources, but they had difficulty synthesizing information in their final projects. Although students did not necessarily appreciate the uncertainty they encountered, they did practice coping as they discovered that there were no readily available answers to some of their questions and conflicting answers to other questions.

In their final projects, it became clear that some students were engaged in a more authentic research practice than simply reporting on existing wisdom. A few students, for example, went beyond textual sources by observing customers in a fast food restaurant. These students focused on making connections between what they had personally observed and what they found in the literature. Other students, however, were simply building bibliographies and made fewer connections.

From our classroom experiences and assessments, we recommend that librarians and instructors provide more coaching, especially in helping students realize answers to questions

must be pieced together from various sources. Scaffolds should also be provided to support less traditional approaches to learning. Such scaffolds include common advance reading, class time to work with peers on a group project, easy access to a librarian to help navigate and contextualize the sea of available information, a clearly articulated assignment description, and continuing clarification from the instructor to state expectations and goals for the students' research.

Students also need opportunities to reflect upon, write, and talk about their research throughout the process. This helps them to share information with others and practice the difficult tasks of summary and synthesis. They need to organize, evaluate, and synthesize information not just for their final project but also in classroom conversations and short written assignments throughout their research and writing process. These types of activities can help students assess their information sources on the basis of how specific discourse communities assign value to certain kinds of knowledge and how the information addresses the students' own rhetorical purpose.

Although instructors might expect students to enthusiastically embrace inquiry-based learning, not all students are receptive. Even in USU classes that incorporated a PBL approach, some students focused on creating a final product for a grade rather than on their understanding of the problem itself. After initial enthusiasm for inquiry, students tended to lay aside their questions and focus on finding the "right" number and kinds of sources. According to Gilbert and Driscoll, "Ingrained beliefs and an existing paradigm structure based on traditional instructional models cause tension and result in a continual struggle on the part of the student."[15]

We have identified several practices from traditional instructional models—what Norgaard calls "ghosts"—that inhibit students despite more progressive methods.[16] They include the one-shot instructional session, tool-based library demonstration, the Web evaluation checklist, and writing textbooks that provide linear, step-by-step procedures for proper information retrieval. All of these "ghosts" reinforce the idea that research is about finding the correct amount of the right kind of facts and reporting these facts back to the teacher. Thus, despite sharing a framework of "writing IL," our instructional practice was haunted by ghosts of traditional pedagogy.

As an example of how these ghosts influenced our instructional practice, we analyze one, the Web evaluation checklist, through a sociocultural lens. Sundin argues for studying "how people act with the help of tools which have been shaped, in a historical sense, in the context of their use."[17] If our current teaching practices, tools, and activities favor a generic and rule-bound approach to IL, this might play a role in students' shallow engagement with information in the process of writing.[18] Our analysis is not a comprehensive implementation of sociocultural methodology. Rather, it is exploratory and designed to draw attention to contradictions in theory and implementation.

Evaluating information is a key component of IL and writing. As such, it is a shared learning goal for librarians and writing instructors, and both communities have created extensive tools and activities dedicated to helping students achieve it. The most common tool is the Web evaluation checklist, which can be found in library tutorials, class handouts, and writing textbooks. We examined a sample of these materials to gain insight into how our students might act in the context of their use. We also reviewed existing literature on Web evaluation to test our suspicions that the checklist approach was hindering learning.

We examined forty-three tutorials from Peer-Reviewed Instructional Materials Online Site of the Month (PRIMO) dating from July 2004 through April 2009. Thirty-one included content on evaluating sources, and eighteen used a checklist approach. As have other studies, we found that the typical checklist includes a list of criteria and, in many cases, questions to guide students through applying those criteria.[19] For example, Baylor University's "Company and Industry Research Tutorial" contains a checklist using broad criteria such as "source, authority, currency, quality, and reputation." Several of the guiding questions include: Who wrote it? When was it written? What do others say?[20] Some tutorials include catchy acronyms, like Appalachian State University's CRAAP test, which stands for Currency, Relevance, Authority, Accuracy, and Purpose. The tutorial includes questions for each criterion, such as "who is the intended audience (elementary school children or brain surgeons)?" to help students determine the appropriateness of the source.[21] According to Meola, the problem with such questions is that they are "question-begging and give slim guidance how they should be answered."[22] For example, with questions such as "is the information error-free?" how will students confirm the accuracy of a source?

Most tutorials apply checklists only to websites, rather than all sources. The tutorial "Searching the Pharmacology Literature," for example, asks, "How do I know if the information is reliable?" This question is applied only to Internet sources. The tutorial implies all Web-based sources are biased, warning students to assess credibility by identifying "information suppliers or authors" and verifying that the "information presented is objective."[23] Similarly, Sundin notes that many include a prescriptive warning about "bad" information on the Internet and "good" information in the library.[24] An example from our study compares the Internet to "free broadcast TV," while the library is equated to "premium cable."[25]

We found similar approaches to teaching source evaluation in textbooks. Sixteen textbooks were reviewed by the writing program for potential adoption in English 1010 and 2010. Librarians were invited to evaluate each textbook's treatment of IL. Librarians summarized the strengths and weaknesses of each text, focusing on how each supported our jointly created IL learning goals.

We found that writing textbooks, like tutorials, reinforce the checklist approach and focus on evaluating Web resources. In *Bookmarks*, Ruszkiewicz, Walker, and Pemberton

warn that "the web is full of outdated sites, posted and largely forgotten by their authors."[26] Some textbooks warn that websites are the "most problematic" genre compared to books and journals,[27] and others warn that the Internet has "many traps for the unwary."[28] Students are told to be vigilant in seeking out "good" and "credible" information by working through a checklist of criteria such as the accuracy, bias, and timeliness of a source.

Textbooks have significant influence in shaping students' evaluation activities because they are required reading. Instruction from the teacher has perhaps an even more powerful effect on students' conceptions and practices. To gain an understanding of how USU English instructors approached teaching information evaluation in their classes, we examined handouts, assignment descriptions, and other teaching materials made available by nearly half of English 2010 instructors. Follow-up occurred during informal conversations and via e-mail.

Several instructors reported discussing information evaluation outside of library instruction. One instructor distributes a copy of Nunberg's "Teaching Students to Swim in the Online Sea," which contains similar themes: the Web is full of dubious information and students are not adept at identifying the "good" stuff.[29] Several instructors also present their students with formal criteria for evaluating information. One instructor, for example, uses criteria outlined in the textbooks *The Curious Writer* and *Writing Arguments*.[30] Other instructors provide their own evaluation handouts, which tend to reinforce the same approach as those found in the PRIMO tutorials and writing textbooks.

Meola argues that the checklist approach promotes "a mechanical and algorithmic way of evaluation that is at odds with the higher-level judgment and intuition that we presumably cultivate as part of critical thinking. The checklist gives students the impression that evaluation is mechanistic, enabling them to spit out correct Web-site evaluations given the right input."[31] This algorithmic approach is reinforced by writing assignments, which require students to include a minimum number and certain types of sources. An examination of English 2010 syllabi revealed a wide range of approaches. A few instructors left source requirements unstated, while others required three to eight sources. Most instructors encouraged the use of scholarly sources, and a few required a certain mix (for example, one book, two scholarly articles). Three instructors banned certain kinds of sources outright, including Internet sources. Anecdotally, librarians at USU have found that when given stricter source requirements, students tend to focus on finding the types of sources outlined in their assignments rather than those relevant to their research questions.

Researchers have documented the limiting effect of an algorithmic approach to evaluating information. Lupton's phenomenographic study found that students' research experiences fell into three categories: seeking evidence, developing an argument, and learning as a social responsibility.[32] Each category represents a progressively more sophisticated engagement with information. Lupton describes an IL workshop in which students were assigned a "webography task" using a Web evaluation checklist. Workshop instructors found most students were concerned more about assessing "checklist criteria than the site's content or message. Students focused on superficial features of information sources rather than on actually using information to develop a greater understanding of a topic."[33] Limberg found students engaged in deeper learning when they focused on content rather than artificial standards for quantity or quality of sources.[34]

Sundin argues persuasively that the dominant approach in library online tutorials treats information as a mirror of the world and that, with the proper, well-ordered search techniques, individuals can learn to gather a Goldilocks style of not too much and not too little information. In this view, student bibliographies reflect only the search for information, and "information becomes thereby primarily a question of tangible quantity."[35] We found this approach reduces critical thinking about the value of information to easily memorized and superficial criteria. Norgaard's padded bibliographies, Fister's assemblages, and Kleine's vision of the night library have emerged, then, from the actual practice and tools both librarians and writing instructors use to teach IL.

In addition to resistance from students, we also discovered a tension between PBL and tool-based instruction by both instructors and librarians. While some writing instructors enthusiastically embraced a PBL approach, others resisted the idea because it takes time away from students writing "real" research papers on their chosen topics. In other cases, longstanding assumptions that librarians' expertise lies only in finding information influenced what instructors asked librarians to do. Many librarians, too, are more comfortable with a traditional approach and still rely heavily on tool-based demonstrations as their primary focus during class time. In essence, librarians, writing instructors, and students are each invested in doing school, doing writing, and doing IL in traditional, but sometimes counterproductive, ways.

CONCLUSIONS

Our collaborative efforts created a common ground for action, and we have made some important advances in our practice, especially with activities designed to focus research on questions rather than on answers. USU librarians and writing instructors have had a constitutive influence on our intertwined practice. In explorations of theory and practice, we have discovered that writing IL is certainly possible given the parallels between IL and composition theory. These parallel theories should be used to address inadequacies in writing textbooks and online tutorials and to counter prevailing assumptions that IL is merely a "look-up skill."

Some thorny problems remain, however. We have successfully transformed our methods into more authentic activities that facilitate inquiry. But we still fall short, as is evident from our observations that students persistently focus on assignment requirements rather than on asking meaningful

questions. Getting students to *use* information—to apply, synthesize, question, understand, and communicate—remains a challenge for both writing instructors and librarians.[36] Like Norgaard, we believe that we cannot address this challenge without cooperating with each other, not only in composition, but in other academic disciplines as well.

In collaboration with faculty, librarians need to attend to the wider social experiences that shape our teaching and the teaching of our faculty partners. These experiences influence conceptions of IL, often limiting it to its narrowest sense. Recognizing our shared social context, which includes a legacy of behavioral education and a culture of outcomes assessment that emphasizes measurable behaviors and discrete skills, enables us to better identify and counter resistance to approaches like PBL. Mindful exploration of both the pedagogical approaches and instructional tools we employ expose the limitations in our own practice and enable us to offer creative alternatives to traditional methods.

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