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Broken Links: Undergraduates Look Back on their Experiences with Information Literacy in K –12 Education

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In the past decade information literacy has received increasing emphasis in K–12 and postsecondary education, yet the information literacy skill levels of high school and college graduates continue to vary considerably. This report compares findings across a subset of data collected in three independent research studies focusing on students' conceptions and perceptions of how they have learned what they know about information literacy. Competency theory, which posits that low-skilled individuals in some knowledge domains are often unable to recognize their deficiencies and therefore tend to overestimate their abilities, is used as the theoretical framework in each study. Data on participants' previous experiences with information literacy instruction was collected through surveys or interviews. A majority of students reported that they were largely self-taught, but some also reported having received instruction from school library media specialists (SLMSs) and, to a lesser degree, public and academic librarians. Overall, low-performing students tended to identify peers as sources of knowledge while proficient students tended to identify SLMSs and teachers as sources of knowledge. These findings have important implications for researchers and practitioners in developing information literacy instruction for low-performing students.

Introduction

In the past decade, information literacy ~~d~~defined as the ability to access, eva luate, and use information effectively and ethically ~~ha~~s received increasing emphasis both in the K – 12 and higher-education arenas as a cornerstone for both lifelong learning and success in the twenty-first century. *Information Power: Building Partnerships for Learning* states the most influential set of information literacy standards in the K– 12 environment: "Students must become skillful consumers and producers of information in a range of sources and formats to thrive personally and economically in the communication age" (AASL/AECT 1998, 2). More recently, the American Association of School Librarians (AASL) has confirmed the complexity and importance of information literacy skills in its *Standards for the 21st-Century Learner* (AASL 2008). Nor is the issue strictly one of individual success and fulfillment; according to

necessary to use information effectively" (ACRL 2000). As a result, many states, accrediting agencies, schools, and colleges now include information literacy as part of the competencies that students should be able to demonstrate. Both *Information Power* and the *Information Literacy Competency Standards* were developed by information professionals, and, while encouraging integrated information literacy instruction across the curriculum, are aimed largely at school library media specialists (SLMSs) in the case of the former and college and university librarians in the case of the latter. Since the introduction of these standards, a veritable cottage industry has grown up around the development of best practices and assessment tools related to information literacy instruction,[1] but surprisingly little research has involved talking to students at any leve, about their own perceptions of how they have learned what they know about information literacy and how they prefer to learn new skills. The three studies described below address that gap in the literature by focusing on the conceptions and self-perceptions of college undergraduates about information literacy, the relationship between their self-perceptions and their actual skill levels, and their affective experience and process when searching for information related to self-generated and imposed information-seeking tasks. Each of these studies had some overlap in the kind of data collected. What follows is a presentation and discussion of a subset of data collected in those three independent research studies, specifically the data related to students' perceptions of how they have learned what they know about information seeking.

Background

SLMSs have responded to the AASL and Association for Educational Communication and Technology (AECT) standards by implementing information literacy instruction in their schools, but they have faced challenges in doing so. For one thing, state-level information literacy standards are often buried within the standards for different subject areas (Harris 2003). For another, the amount of time SLMSs have to devote to instruction varies considerably, depending on staffing and grade level. A recent national survey, for example, found that the median amount of time spent per week on instruction by elementary school library media specialists is fifteen hours, for middle school library media specialists it is ten, and for high school media specialists it is eight (AASL 2007).

Research indicates that SLMSs do make a difference in students' information literacy skill levels. In a study of students in a California community college information literacy course, Smalley (2004) found that those who came from high schools with librarians performed much better on both mid-course and final assessments than those students who came from high schools without librarians. Moreover, numerous studies in various states indicate that more time spent on information literacy instruction results in higher scores on academic achievement tests (see, for example, the studies summarized in Lance and Loertscher 2003). Of course, what constitutes information literacy instruction varies from school to school. In a nationwide survey of high school library media specialists, Islam and Murno (2006) found that the ACRL Information Literacy Competency Standard taught most frequently was number five, which involves the

large gaps (Peter D. Hart 2005). Among college instructors, 59 percent felt that their students were poorly prepared to do research (Peter D. Hart 2005). And a study by the Educational Testing Service (2008)found that of three thousand college students and eight hundred high school students who took the ICT L2(a)4i edd etd aea
sa-1(t)-2((n)-10()-10()4(pm)4(r)3(gi)-2(ona)4(l 0 -1.1Tw 20.005 Tw 2(w)-11lite)(e)48(sl6(te)(e.0 Tc 0 Tw 9.66

and, aside from the fact that one of the researchers helped in developing the course, the two researchers were not involved in the two classes in any way. Students were not graded on the assignment per se, but they received one-third of a credit for completing each part. Though the assignment was a required part of the class, participation in the research study was not. Only those assignments for which informed consent was given were analyzed in this project, and all identifying data was removed from the assignments before they were analyzed. The assignment was pretested in a previous semester (spring 2006) and then modified on the basis of the pretest results.

The first part of the assignment asked students to complete a self-generated, information-seeking task in response to a personal question or information problem they were currently facing. Students used a worksheet to keep a record of their expectations about the assignment, the steps they took in seeking information, the search tools they used, the sources they consulted, and their evaluation of the experience. The second part of the assignment asked students to complete an imposed information-seeking task. Specifically, students were asked to find six sources (two Web sources, two sources from an electronic database, and two print sources) on a topic from the course syllabus (such as information security, identity theft, downloading music, etc.) and to compile a bibliography of those sources using American Psychological Association (APA) citation format. Students used a worksheet to keep a record of their expectations about the assignment, the steps they took in seeking information, the search tools they used, the sources they consulted, and their evaluation of the experience. The third part of the assignment asked students to respond to a series of questions designed to elicit their views of their information-seeking skills and experiences. One question on part three asked, “Please describe any instruction you’ ve had in how to use the library or search for information online?” Students were given a list of eleven choices and they were asked to select all that apply:

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(either in a library, on the Internet, or by other means)?" Students were presented with eight

Seven (25 percent) proficient students had received help from peers, while 14 (61 percent) of nonproficient students said that they had. Twelve (43 percent) proficient students had received help from a librarian in a public library; slightly fewer (8, or 35 percent) nonproficient students had. Relatively few students in each group indicated having received help from a college or university librarian, with 6 (21 percent) of the proficient students selecting that answer and 6 (26 percent) of the nonproficient students selecting it. In terms of formal instruction, greater differences were seen. Fifteen (54 percent) of the proficient students indicated that they had received instruction in a library media center, while only 8 (35 percent) of the nonproficient students said that they had. Similarly, 10 (36 percent) of the proficient students reported having received such instruction in a nonlibrary classroom, while only 3 (13 percent) of the nonproficient students had. Relatively few in each group had received information literacy instruction during the university' s orientation (5, or 18 percent, of proficient students and 5, or 22 percent, of nonproficient students). The findings are summarized in table 2.

Table 2. Study Two: Student Perceptions of Information Literacy Instruction by Proficiency Level

Means of Onstruction	Frequency Nonproficient (N = 23)	Frequency Proficient (N = 28)	Total Frequency (N = 51)
Self	18 (78%)	20 (71%)	38 (74%)
Library media center	8 (35%)	15 (54%)	23 (45%)

school grade point average and ACT or adjusted SAT score). As with study 2, the intention was to try to recruit both students with proficient information literacy skill levels and students with nonproficient skill levels. Students were given a gift card to the university bookstore as compensation for participating in the interview and were given another gift card after taking the ILT. As an added incentive to try to do well on the ILT, students who scored in the top 15 percent were be eligible for a lottery to receive one of two additional gift cards.

The research consisted of semistructured interviews with each student lasting anywhere from 45 to 60 minutes. Each interview was recorded and later transcribed by a graduate research assistant. Both researchers were present during the interviews, with one asking the questions and the other taking notes. The purpose of the interviews was to determine students' conceptions of and experientop s(6-14(nt-2(w)2(s)-1(, w0(ub)-107-2(ons0r)-2lei s)-1(t [(a)4(nd e)4(x)-10(10(r)-11(t)-21222)3

students referred specifically to learning about information seeking in a library media center, and 5 (25 percent) of those 6 recalled the library media center experience having occurred during their time in elementary school. Three (15 percent) mentioned having received instruction in a college library. None specifically mentioned having received instruction in a public library. Students also mentioned having received instruction from teachers in how to find information. Thirteen (65 percent) students overall identified teachers as sources of information literacy instruction. Some students identified teachers at specific levels (with some students identifying more than one level). Five (25 percent) stated that they received information literacy instruction from teachers in elementary school, 6 (30 percent) mentioned high school teachers, and 3 (15 percent) mentioned college teachers. Interestingly, none mentioned middle school teachers.

Students also described informal sources of information literacy instruction. Eight (40 percent) identified parents as sources of such training, with six (30 percent) of these identifying their mothers as sources. Three (15 percent) identified other family members, of which 2 (10 percent) identified brothers. Four (20 percent) stated that they had learned about finding information from friends, while only 2 (10 percent) said that they had been instructed informally by librarians. Not surprisingly, 17 (85 percent) described themselves as self-taught, and 4 (20 percent) mentioned specifically that, because they grew up with the Internet, learning about finding information came naturally to them.

When asked how they would prefer to learn new information-seeking skills, one (5 percent) student stated that he o he o he sk-2(o(f)3(5)-1(t)-2(a) t)-., and 4 h(t)-2(4(nt)-28(s)-1(t)-mo4)-10(hn)-mo4 tt,t-

researchers (see, for example, Burhanna and Jensen 2006, Carr and Rockman 2003, Ercegovac 2003, and Nutefall 2001), more collaboration among SLMSs, public librarians, and academic librarians can help to provide a consistent program of instruction to students in various library environments. By the same token, more collaboration between SLMSs and teachers can lead to positive and consistent reinforcement of what is being learned both in the library media center and in the classroom. Moreover, a new conception of information literacy may be needed, one based on students' experiences with information and information seeking rather than what Macpherson (2004) calls "an information-processing model" based on following discrete steps in a procedure (cited in Budd 2008). Such research might take a phenomenographic approach, one focused on conceptions and perceptions rather than formulaic competencies, following, for example, the work of Bruce (1997) with college administrators and that of Maybee (2006, 2007) and Budd (2008) with college undergraduates. Incorporating student conceptions and perceptions into information literacy instruction might allow SLMSs, other librarians, and other educators to more effectively address the information literacy needs of all students. Clearly future research is needed among K–12 students to inform best practices for information literacy instruction and to ensure that students at each level are prepared to advance to the next level, to be successful academically, and to be lifelong learners.

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Notes

1. Some examples of such assessment tools include Educational Testing Service's *iSkills*, Project SAILS' s *Standardized Assessment of Information Literacy Skills*, and James Madison University's *Information Literacy Test*

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