Factors Affecting Students' Information Literacy as They Transition from High School to College

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Abstract

Despite the considerable attention paid to the need to increase the information literacy of high school students in preparation for the transition to college, poor research skills still seem to be the norm. To gain insight into the problem, library instruction environments of nineteen high schools were explored. The schools were selected based on whether their graduates did well or poorly on information-skills assignments integrated in a required first-year college course. The librarians in the nineteen schools were asked to characterize their working relationships with teachers, estimate their students' information-

Factors Affecting

A notable example of academic librarians' efforts to work with high schools to raise students' information literacy is the Kent State University Libraries' range of projects, from the TRAILS assessment tool (see <www.trails-9.org>) to their Transitioning to College website (see <http://libguides.library.kent.edu/t2c>). The Kent librarians have reached out to secondary school students and teachers, and, to a much lesser extent, to administrators (Burhanna 2007, 2013; Burhanna and Jensen 2006; Institute for Library & Information Literacy Education n.d.). Another example is a project at a Canadian college; the project culminated in a film featuring college faculty discussing what they expect of entering students (Okanagan College 2010).

AASL also promulgated information literacy standards and guidelines (2007). Jo Ann Carr and Ilene F. Rockman have compared AASL and ACRL statements, emphasizing their similarity (2003). Knowledge Quest, the AASL journal, devoted the March/April 2002 and 2004 issues to information literacy K–20; the April 2010 Teacher Librarian is another example of a journal with a theme issue on the topic of high school to college transition. Efforts such as these are ongoing, suggesting that high school librarians are likely to be aware of what level of information literacy academic librarians expect entering students to have. Yet while the complaints about lack of readiness for college continue, explanations have been limited. Typically, research focuses on students' use of information technology and their search behavior. For example, the Pew Research Center's study How Teens Do Research in the Digital World (Purcell et al. 2012) found that students used library resources to complete assignments less than 20 percent of the time, relying instead on Google and other electronic sources. In his study of undergraduate search behavior, Arthur Taylor (2012) concluded that students' proceeded erratically and did little to evaluate information.

Methodology

The Opportunity to Seek Explanations

Several circumstances allowed us to pursue answers to the question of why students arrived at Rutgers with poor information skills. The first circumstance was the existence of a required first-year course at the University's Douglass College which mandated the use of library resources. This course enrolled over 400 undergraduates in more than twenty sections, which meant that the librarian responsible for preparing them to use the library welcomed the help of MLIS students who were taking the course on teaching information literacy. The involvement of the MLIS students and their professor allowed for data collection, including information about where the undergraduates attended high school. Case studies could therefore be developed by selecting high school librarians based on whether their graduates did well or poorly on the information skills taught and tested in the Douglass course.

Data Collection

The MLIS students were trained by the Douglass instruction librarian to teach the undergraduates the basics of finding books and articles for a paper they had t 400 uui3 35mch the

10	20 (2)	2643	N (Villanova MLS)	2	1.5 / 4	1762	$55,000	$20.80	301
4	20 (2)	1622	Y	11	2 /0.5	811			

1 [18]	1.0	537	0.5	72.7
16 [17]	2.6	477	1.9	36.9
11 [14]	1.7	444	0.4	52.8
15 [14]	1.1	486	1.3	32.7
18* [14]	*	*	*	*
19[14]	1.0	513	0.4	71.3
12 [13]	2.2	495	2.5	63.3
14 [13]	9.7	369	4.8	18.6
13 [10]	4.9	460	5.1	51.4
17 [6]	2.0	498	2.0	70.3

*Private school, excluded from state data

Again splitting the schools between the case 16 and case 11 (excluding case 18, a private school), differences between the two groups in table 3 appear to be greater than in table 2. The average percent planning to attend a four-year college is 63.92 for the top, 51.48 for the lower group.

Common Elements

In addition to the descriptive data displayed in the above tables, the telephone interviews

Coordination: The teacher and librarian may meet together to discuss a lesson/unit of study. However, the individual goal setting, learning experience design, teaching, and evaluation are done independently.

Collaboration: The teacher and the librarian jointly set goals, design learning experiences, teach, and evaluate a comprehensive unit of study.

The question was, "Using these definitions, estimate the number of instances of collaboration, coordination, and cooperation with teachers that occurred during the fall semester."

The main categories that emerged from the comments included: estimated instances of the three types of interaction (generally expressed as proportions), communication mode, librarian tasks, and the nature of the librarian-teacher relationship. In characterizing the school librarian's attitude, tone as well as wording was taken into account. It should be noted that "teachers' stance in regard to librarian" is based on librarian perceptions as filtered by the researchers. Had the teachers also been interviewed, impressions might differ. The results are detailed in table 4. The most common modes of interaction were cooperation and coordination; very little collaboration was reported.

Table 4. Characteristics of librarian-teacher relationships (same sort order as table 2).

School ID [SAL IL score]	Cooperation, coordination, collaboration	How do they communicate?	Librarian tasks	Librarian's stance in regard to teachers	Teachers' stance in regard to librarian
7 [22.5]	80% coop 20% coord.	Form asks re project, goals, lesson plan, resource needs	Assesses needs; create pathfinder and shows teacher, who then brings in class	Seems collegial	Those who use library are cooperative and provide what is requested by librarian.
2 [21.5]	33–50% coord; not so much collab	Sit down, plan together	"…we're providing services … collaboration		

Assignments Requiring IL Skills

Following the cooperation-coordination-collaboration question, librarians were asked: "Are college-bound classes asked to write papers that requires use of library resources? If yes, please describe how you work with the teachers and students." All but four of the librarians answered in the affirmative. One stated that papers were mandated but not the use of library resources, and the other three indicated that paper assignments varied depending on the teacher; see table 5. Librarians' statements tended to build on their answers to the earlier question but focused more directly on the instructional role and on information resources. In fewer than half of all cases

8 [20]	Yes	9–12?	"…teachers don't really want us to teach the research process. Review citation format and link to citation guide website....I do have a link to a website about research

			time they spend in .Keep "Media Center" Offer backup when problem with printer, etc. Limit computer use to research. Most have computers at home	classes? Treat as computer lab?	equipment mainly?	
17 [6]	Yes	?	"The teachers come in and tell me what they want, what websites they want to use, what they want the kids to get out of it. I help the teachers find sources, work with the students to find resources, write a bibliography."	Help teachers and students	Focus on resource location	Minimal; bibliography assistance

"NA" not applicable

Estimates of Students' IL Skills

These questions were followed by several that were focused on librarians' judgments of their collegebound students' information literacy skills. Table 6 summarizes answers to the following questions:

1. In your estimation, how proficient are your collegebound seniors in the use of:

Table 6. Librarians' judgment of college-bound students' information literacy (same sort order as table 2)

School ID [SALIL score]	Students' proficiency in using			How well do students know…					
	catalog	databases and indexes	Internet search engines	About different sources	How to use sources	How to analyze info	How to synthesize info	How to evaluate info	How to use info ethically
7 [22.5]									

Recurring Words and Phrases

In addition to the summaries presented in the preceding tables, all the transcripts were reviewed again to note words and phrases that recur across the interviews. Participants expressed a number of complaints about students' tendencies to "believe everything they read on the Internet" and their cavalier approach to learning from information resources. Frequent references were made to teacher behavior that school librarians saw as preventing them from making the kind of significant contribution to students' education that they knew was important. The complaints centered on the lack of time teachers were willing to give to library instruction, manifested often as asking librarians to "just pull the books." In addition, participants referred to teachers who are biased against electronic information, who make poor assignments, and who themselves lack information literacy. Only a few times did librarians say that they saw bibliographies and papers written by students; more often librarians stated that they were not given the opportunity to evaluate the final result of students' work.

Discussion

No Clear Answer to Research Question

The findings summarized in tables 2 through 6 do not provide a clear answer to the question of why first-year college students are information illiterate. Counter to what one would expect, the school which graduated students who achieved the best scores on the Douglass IL assessments (School 7) does not require students to write a library-resource-based paper, although veteran teachers do, and has a librarian who complained about teachers who are themselves less than information literate. She also stated:

> …no scope or sequence in the curriculum. Only six librarians in district, no supervisor championing our cause. I don't know if you know this about administrators, people in power, but most of them, the principals, are gym teachers. They we Tc 0 Thn-14(e'6(te)3(i))4(t)-

Central to this work is the role of the school librarian as an information learning specialist, working with classroom teachers to foster opportunities for students to learn well. This shared dimension of peda2(e)sBT8/tile4(a)-86ee0la4 slae4(14)yol2d in mIaimiz8(4)i

teachers seems to be the norm, and all students are required to write a paper using library resources. The librarian is not entirely satisfied, however, as shown by the answer to the question about ability to evaluate information:

> They are probably in the 6–7 range. They understand, but they don't fully understand. They still are in the "it's on the Internet; it's true" [stage]— not completely clueless, after they've met with us, they're aware, but some kids aren't on top of that.

On the question about ethical use of information, this librarian mentioned that "We've had some very high-level incidents with plagiarism…student identified as a valedictorian, went to Harvard, but was found out." One might conclude that in a community that puts a high value on education and has a good high school library program, pressures to achieve might trump a genuine commitment to learning on the part of students.

Similarly, the librarian in School 9, one of the schools with the highest percentage of students planning to attend a four-year college, reported that when it comes to using the Internet, students "can find their way, but they want the quick and easy." She was explicit, however, about how her role is related to college preparation: "By senior year, they have been introduced to practically every database… My goal is that when they leave here, they can apply what they've learned at college." Since School 9's graduates scored well, she seems to have succeeded.

Looking at the schools with a low percentage of students planning on college, do the librarians show different concerns or expectations? For example, in answer to the question about ability to use search engines, the librarian at School 14 said:

> They can use the search engine wonderfully, but they just print out anything; whether it's appropriate for their research...They don't refine the search to what they need.

The implication here is that the librarian does not have the will or, perhaps, the power to change the students' ways. This is the same individual who reported that students are taught skills in tenth grade, but not formally in their senior year:

> Seniors, we don't really do presentations. Our percentage of college kids isn't high. It's basically the honors students—one teacher, with about five classes. They're taught skills in sophomore year, there's no review after that. On an informal basis, we'll do it

Schools 13 and 14 are large, with diverse student bodies, and what appear to be reasonable budgets for their school libraries. School 13 has more staff and a broader range of electronic resources. Librarians from both schools used words such as "it's dependent on the teacher" and "up to teacher" and had little to say about what their teaching role is. Unlike the librarian in School 9, the librarians in Schools 13 and 14 did not speak about their goals for student achievement.

Whether or not the majority of their students are college bound, most of the librarians seem to have low expectations of students' commitment to the kind of deep independent learning that

Eric M. Meyers, Lisa P. Nathan, and Matthew L. Saxton (2007) found that teachers' control over students' use of libraries and lack of collaboration between librarians and teachers constrained the development of information literacy. Karen Lindsay (2005) concluded that information-literacy integration with curriculum requires leadership from principals and "buy-in" from most teachers. Thomas S. Duke and Jennifer D. Ward (2009) analyzed publications dealing with the inclusion of information literacy in teacher education and found that it was far from adequate. Cindy L. Kovalik et al. found that most teacher educators do not use American Library Association information-literacy concepts and standards, and that there was "little concrete evidence that teacher education graduates are teaching information literacy to their PK–12 students" (2010, 164).

The most thorough critiques of the frequently dysfunctional relationship between educators and school librarians come from Gary Hartzell, a professor of educational administration. He sees principals as just as important as librarians in shaping the school library program and sees principals as responsible for "creating a school environment where student library use and faculty/librarian interaction are valued and promoted" (2002a, 2002 b).

Conclusions and Recommendations

The findings do not add much that is new to our understanding of the low level of information literacy that first-year students bring to college. The findings do, however, confirm and reinforce results of studies such as those cited in the background section of this paper.

It seems that many New Jersey high school students either do not receive adequate information literacy instruction, or do not fully absorb what school librarians try to teach them. As shown by the Douglass IL assessment (see table 1), many students seem to demonstrate that they do not make connections between information-literacy principles they might have learned and how those can be applied in the higher-education environment. Neither is it a new finding that there are barriers to collaboration with teachers and consequent roadblocks to curriculum-integrated information-literacy teaching (e.g., Islam and Murno 2006).

The New Jersey study's value lies in evaluation of first-year students' information-literacy combined with commentary from their high school librarians and data about the schools. This holistic look is useful because the problems that have been identified must be understood as systemic and interconnected if remedies are to be found.

The librarians in this study saw themselves as tr biD rat

Table 7. Examples of factors affecting IL achievement in New Jersey high schools

Factor affecting high school students' information literacy	Where found: Table number and school number
Student laziness	Table 6: 9, 3
Teachers underutilize librarian	Table 4: 3, 6, 10, 17
Teacher resistance to collaboration	Table 4: 2, 14
Teachers like to control	Table 4: 3, 4, 17 Table 5:8, 5, 1, 13
Teachers lack time	Table 4: 3, 5, 8, 15

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