College Success: High School Librarians Make the Difference

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Many students who enroll in a community college *Information Research* course come from three local school districts. Of those three districts, only one has librarians. Through examining grade rosters, this study demonstrates that student achievement is substantially higher for students who come from high schools that have librarians and library programs.

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THE HIGH SCHOOL–COLLEGE CONNECTION

As high school students graduate and begin to use college libraries, academic librarians are aware that some students are better prepared than others for the research tasks that confront them.

In today's Information Age, information literacy skills form a core set of complex competencies that are necessary for success in academia and in the work world. In an ideal situation, students would come to college with the information literacy skills needed for successfully navigating college level research tasks. Yet information resources at the college and university levels are more extensive, more specialized, and more diversified than those supporting learning at the high school level. Thus, even students who have had exposure to information literacy skills in elementary and secondary school need additional education and concrete learning experiences before they are able to take full advantage of available resources.

But information literacy education at the postsecondary level is driven by a very strong, second motivation—recognition that it is critical to reach those students who come from educational backgrounds that did not include an emphasis on information literacy skills. Perhaps those students come from schools that did not have school librarians; perhaps they are international students; perhaps they are returning students who have knowledge gaps about electronic resources. Whatever the cause, academic librarians know that some students are not as well prepared as others, and they have been vigilant about establishing programs and opportunities to at least begin to "level the playing field."

Across the entire educational spectrum, librarians are aware that teaching infor-mation literacy skills is an important component to educational success. Within the last decade, research has provided solid evidence that school library programs—ones with credentialed librarians, where librarians partner with school faculty, and whose school libraries have sufficient staffing and collections—contribute to student achievement. These studies have controlled for community and school differences and the possible interfering effects of such variables as student socio-economic status. The studies have greatly affected our understanding about how school libraries, librarians, and library programs contribute to student learning and have been prominently featured at such events as the White House Conference on School Libraries (June 2002).[1]

In recent years, there has been a convergence of interest in establishing standards and enumerating competencies for information literacy. Across the entire educational spectrum, the underlying framework has been that information literacy comprises sets of inquiry and thinking skills integral to learning at all levels of schooling. The American Association of College and Research Libraries (ACRL) has published information literacy standards and competencies that include performance indicators,[2] so has the American Association of School Libraries (AASL), in a joint effort with the Association of Educational Communications and Technology (AECT).[3] Efforts have been made to map the two, revealing how they dovetail and support one another.[4] The ACRL document builds on the AASL/AECT standards, thus reinforcing the conceptual picture of information literacy skills as a continuum across educational levels.[5]

Reports of cooperative programs between librarians and faculty at high schools, and at colleges and universities,

uniformly endorse the promise and rewards of partnerships between high schools and postsecondary institutions.[6] AASL's *Knowledge Quest on the Web* has focused on the high school-to-college connection.[7] Since 1998, an AASL/ACRL Task Force on the Educational Role of Libraries has emphasized the importance of information competency instruction for the entire K-16 spectrum and has gathered examples of high school–college partnerships.[8] Academic librarians have been urged to work with their K-12 colleagues to ensure greater student success in higher education.[9] High school library use has been found to be a predictor of college library use,[10] thus reinforcing the importance of information literacy programs in secondary schools. Librarians have made efforts to examine whether and to what extent high school library instruction impacts research behavior once students get to college.[11]

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And from the college perspective, a plethora of studies have examined the impact of various types of library instruction on first-year students.[12]

HIGH SCHOOLS WITHOUT LIBRARIANS: DOES IT MATTER? A CASE STUDY

Background

Since 1988, librarians at Cabrillo College have taught Information Research (Library 10), a one-unit corequisite to College Composition (English 1A), the college's three-unit transfer English course. The course reaches between 800 and 900 students each semester. Cabrillo College, located in Santa Cruz County on the central California coast, is one of California's 108 community colleges.

A large number of Cabrillo students flow in from high schools in the three local public school districts. One of these public school districts has library media teachers (in California, school librarians are called library media teachers or LMTs). The other two school districts do not.

This study examined levels of student achievement as recorded on Library 10 grade rosters and asked: Do students from high schools in the one school district that has library media teachers do better in the Information Research course when compared to students from the high schools that do not have librarians?

The facts about school libraries in California are grim. Only about 15 percent of California schools have credentialed library media teachers, and California ranks fifty-first in the country in the ratio of library media teachers to students.[13] The fact that, within the local college district, one school district among the three has retained librarians and library programs while the other school districts in the region do not have them created a situation that merited study.

The primary vehicle of instructional delivery for the Information Research course is a self-paced workbook. Midway in the semester, students are required to turn in their workbooks, which are then graded by their Library 10 instructors. Students subsequently pick up their workbooks, continue with them, and turn in completed workbooks by a final due date. Instructors again grade them, the workbooks are returned to students, and students review them. The final step is for students to take a performance final, which requires them to do real-time searches on a topic new to them, selecting and citing quality resources.

Information Research is designed to teach the research skills required by assignments in the English 1A course so that students acquire generalizable, transferable information literacy skills. The course focuses on engaging the student in the research process. It covers types of information resources, formulation of research strategies, selection and evaluation of sources, and techniques for organizing and recording information about materials found. The first half of the course, which is completed prior to the midpoint check, outlines the world of information resources, discusses the nature of a research paper, covers library online catalogs and basic reference tools, and introduces citation style. The second half covers the Internet and electronic full-text databases and provides more details about the research process.

Identifying Students for the Study

Class rosters, on which Library 10 instructors enter scores and grades, were examined for the semesters Spring 2001 through Spring 2003. English 1A, and thus Library 10, is taught during the January intersession as well as in the summer, but it was decided to limit this study to students who took the course in the semester-length format. Information about students was checked through the college's computer student database. Students included in the study were those who (1) came from a regular (i.e., not an alternative) public high school in the three local school districts; (2) had received a grade in the course (i.e., had fulfilled all course requirements and taken the final exams); and (3) had attended high school for four consecutive years, beginning with the cohort that went to high school 1996–2000.

In all, 506 students were identified who met the selection criteria.

Collecting Information about Student Achievement

At the midpoint of the semester, librarians who are Information Research instructors score the workbooks using a point system. For each class roster, the midpoint scores were examined and then grouped into thirds: high, middle, and low scores.

Information collected for each student included the following: (1) high school and district; (2) whether the midpoint score, in comparison to the other student scores on that roster, was in the top, middle, or lower third of the score spread; and (3) final letter grade (A, B, etc.) earned for the course.

School District Characteristics[14]

As Table 1 illustrates, the three school districts in Santa Cruz County reflect different demographics.

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Situated on California's Central Coast, the county as a whole has a population of 258,000.[15] In the southern portion, the local economy turns on agriculture. Elsewhere, tourism, hi-tech and service industries, and education predominate (Uni-

Table 1
Characteristics of School Districts and High Schools in Santa Cruz County, CA, 2001–2002
(Latest Data Available)

	High School	Librarians on Staff?	Average Expenditure per Student Districtwide (US$)*	Total Enrollment	Students per Computer	White (%)	Hispanic (%)	Academic Performance Index (API)[a]	Average Class Size Schoolwide
School District 1	High school A	no	7169	1974	3.9	57	38	684	26.6
	High school B	no	7169	3187	6	8	88	488	26.6
School District 2	High school C	no	6435	1228	4.3	90	6	697	25.9
Average for school districts without librarians			7028	2129	4.7	39	57	623	26.3
School District 3	High school D	yes		1280	3.5	70	20	709	28.8
	High school E	yes		1208	4.9	66	21	733	27.1
	High school F	yes		1415	4.7	76	14	673	29.7
Average for school district with librarians			7336	1301	4.3	71	18	705	28.5

*California statewide average for all districts is US$6830. Compared to other states, California ranks thirty-third in per student expenditure.
[a] The API is a numeric index that ranges from a low of 200 to a high of 1000. See information at http://www.cde.ca.gov/psaa/api/. See also Ref. [14].

versity of California, Santa Cruz, and Cabrillo College are both located in the county). The 2000 federal Census showed that no racial or ethnic group forms a majority in California. Across the state, Whites (47 percent) and Hispanics (32 percent) are the largest groups. In Santa Cruz county, Whites predominate in the northern part of the county: School District 2 (San Lorenzo Valley High School) is 6 percent Hispanic, and on average, Hispanics make up 18 percent of the students at the high schools in School District 3 (Santa Cruz City School District). School District 1 (Pajaro Valley Unified School District) is in the southern portion of the county, and there Hispanics make up 38 percent of the students at one high school and 88 percent of the students at the other.

Cabrillo College is an open-admissions educational institution. Students go through an assessment process for mathematics, reading, and written English. Through assessment, students are placed in English 1A, in one of several courses for remediation, or in courses offering assistance for learners of English as a second language. Students are enrolled in English 1A either by testing into

Table 2
Student Achievement by High School and District: Midpoint Check and Final Grade

School District	High School	No. of Students	Top Third	%	Middle Third	%	Bottom Third	%	A	% A	B	% B	C	% C	D	% D	F	% F
					Midpoint Check							Final Grade						
Information for each high school within each school district																		
School District 1	High school A	104	20	19	34	33	50	48	50	48	33	32	14	13	5	5	2	2
	High school B	129	38	29	35	27	56	43	50	39	41	32	20	16	13	10	5	4
School District 2	High school C	71	11	15	33	46	27	38	26	37	34	48	10	14	1	1	0	0
School District 3	High school D	76	46	61	19	25	11	14	50	66	18	24	7	9	0	0	1	1
	High school E	40	22	55	14	35	4	10	28	70	9	23	2	5	1	3	0	0
	High school F	86	48	56	23	27	15	17	55	64	27	31	3	3	1	1	0	0
Information grouped by school districts																		
School District 1	High schools A and B	233	58	25	69	30	106	45	100	43	74	32	34	15	18	8	7	3
School District 2	High school C	71	11	15	33	46	27	38	26	37	34	48	10	14	1	1	0	0
School District 3	High schools D, E, and F	202	116	57	56	28	30	15	133	66	54	27	12	6	2	1	1	0

School District 1 is Pajaro Valley Unified School District. High School A is Aptos High School. High School B is Watsonville High School.
School District 2 is San Lorenzo Valley Unified School District. High School C is San Lorenzo Valley High School.
School District 3 is Santa Cruz City School District. High School D is Harbor High. High School E is Santa Cruz High. High School F is Soquel High.

it or by satisfactorily completing remedial course(s).

Since it is a corequisite of English 1A, all students who take the Information Research course are judged to have skills required to be successful. Although a far greater proportion of students from the School District 1 is Hispanic compared to the other two school districts, all students in English 1A have demonstrated skills at the requisite level.

DISCUSSION of STUDY RESULTS

Midpoint Check

Over half (57 percent) of the students coming from the three high schools in the school district that has librarians (School District 3) scored in the top third at the midpoint check. For students from high schools in the other two school districts, those figures are 25 and 15 percent. Again, at the midpoint check, 15 percent

of students from high schools with librarians scored in the lowest third, while the proportions for the other two school districts were 38 and 45 percent. The midpoint check, in comparison to the final grade, best reflects the information research skill levels the students bring to their college work from high school (Tables 2 and 3).

Final Grade

Two-thirds (66 percent) of students from the school district with librarians earned an A in the course as a whole. For students from high schools in the other two districts, those numbers are 43 and 37 percent.

With Library 10's focus on achieving positive learner outcomes, many Library 10 instructors encourage their students to correct mistakes after the midpoint check and subsequently resubmit the workbook for additional credit.

Students can discuss questions or problems with their own Library 10 instructor, and all librarians at the library's Reference/Instruction Desk are available to explain concepts and answer questions. Prior to taking the performance final, students review a list of skills required by the test and can ask for help or clarification. Looking at students from the two school districts without librarians, while only 23 percent of the students were in the highest third scorewise at the midpoint check, 41 percent got A's in the course as a whole. This indicates that although their initial preparation may have been weak, they used the course, and the opportunities offered, to improve.

CONCLUSIONS

The results provide evidence that students from high schools with library media teachers are more familiar with basic

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Table 3
Student Achievement by Whether the High School had Librarians

Mid-Point Check	% in Top Third	% in Middle Third	% in Bottom Third
All students	37	31	32
Students from High schools with librarians	57	28	15
Students from High schools without librarians	23	34	44
Final Grade	**A**	**B**	**C & below**
All students	51	32	17
Students from High schools with librarians	66	27	7
Students from High schools without librarians	41	36	23
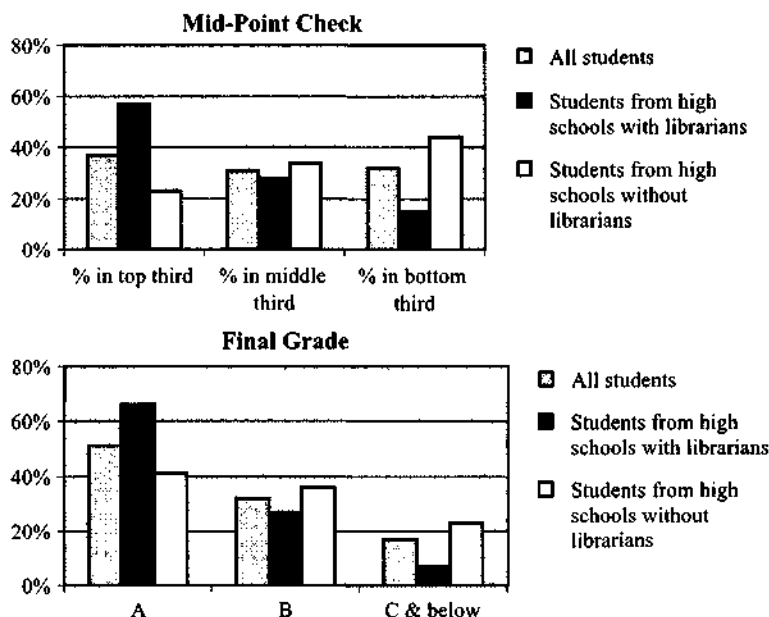
Mid-Point Check

□ All students
■ Students from high schools with librarians
□ Students from high schools without librarians

Final Grade

□ All students
■ Students from high schools with librarians
□ Students from high schools without librarians

library use concepts, fundamental ideas about how information is organized and made accessible, and how to use online catalogs to advantage (these are examples of concepts and skills covered in the first half of the workbook) than are students from high schools without librarians—they achieve better by the midpoint check.

> "The results provide evidence that students from high schools with library media teachers are more familiar with basic library use concepts, fundamental ideas about how information is organized and made accessible, and how to use online catalogs to advantage (these are examples of concepts and skills covered in the first half of the workbook) than are students from high schools without librarians—they achieve better [academic scores] by the midpoint check."

A significant number of them go on to get A's on the final and A's in the course as a whole when compared to the other groups.

Students improve their library research skills through both instruction and practice: each is a key element. To be most effective, instruction and practice should happen throughout one's schooling.

As many librarians know instinctively (and through experience), there is no quick fix for students with a lack of information literacy skills. Although useful, and better than nothing, most veteran academic librarians would say that the one-shot instruction class, the walk-around orientation session, or the self-guided tour does not measure up. The quick fixes usually have to rely on brief demonstrations and lists of procedures—for example, in the online catalog (which looks like this), do this, then this, then this; in this online database (which looks like this), do this, then this, then this.

The information-literate person, by contrast, has built up layers of knowledge about how information is organized and accessed and is able to devise and apply information research strategies. As Harris has observed:

> Like critical thinking skills, information literacy skills must be taught and practiced in multiple ways and in a variety of settings over time. Because of the complexity of information in today's world and the variability of information problems students encounter, information literacy must be learned as a tool of strategy rather than a tool of procedure.[16]

To be effective, experience with information literacy strategies needs to be part of the entire educational experience. School librarians and school library programs are key educational components.

This study supports those assertions, as it demonstrates that students whose high schools include librarians and library instruction programs bring more understanding about information research to their college experiences. This study also supports the admonition that academic librarians should actively support their school librarian colleagues. Information literacy skills underpin student achievement. Libraries do not succeed; students do.

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NOTES AND REFERENCES

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