

tion-seeking and use, and developing an evidence-based practice framework for school librarians.

Carol Kuhlthau is a professor in the School of Communication, Information and Library Studies at Rutgers, the State University of New Jersey. She is Director of the Center for International Scholarship in School Libraries. Known for her research into the user's perspective of the information search process, she has written numerous papers, articles, and books including *Seeking Meaning: A Process Approach to Library and Information Services and Teaching the Library Research Process*.

## Student Learning Through Ohio School Libraries, Part 2: Faculty Perceptions of Effective School Libraries

Ross J. Todd and Carol C. Kuhlthau

Center for International Scholarship in School Libraries (CISSL)  
Rutgers, the State University of New Jersey

---

*This article focuses on the perceptions of school principals and teaching faculty in relation to the school library and the helps it provides to students. Set against a brief review of current literature, it examines data provided by 879 faculty in 39 elementary, middle, and high schools in Ohio as part of the Student Learning Through Ohio School Library research study. In a parallel survey to the Impacts on Learning Survey for students participating in this research, the Perceptions of Learning survey sought to gather faculty's perceptions of the helps provided by the school library to their students. This article presents a summary of the findings, provides a brief comparison with the student data, and addresses the concept of evidence of school library helps as observed by the teaching faculty.*

### Introduction

Support of the school principal and teaching faculty is considered an essential factor in effective school library programs. This support involves principals as decision-makers and controllers of budgets, including library budgets; staff allocation; school schedules and timetables; and policies related to instructional integration, information technology provision, and use, all of which shape and influence the school library program. The support also involves teachers as both resource users and instructional partners in the design, delivery, and assessment of information literacy instruction (Hartzell, 2002).

There is some evidence from school librarians that school faculty generally do not understand the nature and dimensions of the role of the school librarian and that school librarians perceive a lack of value, importance, and appreciation of their role and a negative perception of their image. The consequence of this is that they are unable to perform at the desired level (Hartzell, 2002; Lau, 2002; Todd, 2001). Lau identified that although principals lack knowledge about the role of school libraries and their ability to improve student learning, ownership of this lack is not merely in their hands: school librarians need to make themselves more visible by articulating and enabling their vision. This is echoed by Henri and Boyd (2002), who found that school librarians were not consciously using the heuristics of influential people, that is, likeability, expertise, sensitivity, a controlled ego, and focused energy and effort. In contrast to Lau's study are the findings of Henri, Hay, and Oberg (2002). Their study found that the beliefs of princi-

pals and school librarians about the role of the principal were well aligned except where librarians were not also qualified teachers. Principals and school librarians differed most on their current and future perceptions of the role of the principal in advocating and facilitating the development of an information-literate school community.

To date, few studies have targeted the perceptions of classroom teachers toward librarians and school librarians. Nakamura (2000) found that the importance of the pedagogical role of school libraries and school librarians was acknowledged by most faculty. The findings of the De Witt Wallace-Readers' Digest Library Power project undertaken from 1988 to 1999 (comprehensively documented in *School Libraries Worldwide*, 5(2), 1990) similarly showed that school faculty valued the library for meeting their instructional and resource needs and enabling effective learning outcomes. However, a gap in this literature particularly centers on understanding how teaching faculty see the school library more explicitly helping the students that they teach and how this help is evidenced in students' learning outcomes. Contemporary school librarianship literature is based on the assumption that there should be a strong and positive collaborative relationship with classroom teachers, with mutual planning, design, implementation, and evaluation of instructional interventions to ensure that students develop the appropriate cognitive, behavioral, and affective scaffolds for finding and using information in their learning tasks. Whether this role is actually endorsed by classroom teachers has never been determined.

### Research Objectives

In addition to the student data, the *Student Learning Through Ohio School Libraries* research aimed to identify how school faculty perceived that their school library helped students, as well as identifying how the faculty were able to evidence this help. Accordingly, the faculty of the 39 schools selected in the sample were given the opportunity to respond to a *Perceptions of Learning* survey. The structure, content, instructions, and administration of the survey were similar to those of the student instrument. It consisted of the same 48 statements of help as used in the student survey, the primary difference being the change of person. For example, the statement *The school library has helped me know the different steps in finding and using information in the student survey* became *The school library has helped students know the different steps in finding and using information in the faculty survey*.

In this study, school faculty was defined as those members of the school staff directly involved in the teaching and learning of students. It was operationalized as Principal, Assistant Principal, Classroom Teacher, School Librarian, and Technology Specialist. In addition to rating the 48 statements, faculty were asked to address an instruction that focused on evidence of student outcomes. It read:

Briefly write down how you know that the school library has helped students with their learning. For example, you have observed improvements in their research assignments, class quizzes after school library classes, or their searching of the internet is better after school library classes. Do not be limited by these examples.

The purpose of this question was to articulate some of the student learning outcomes observed by the faculty. It sought to tap into some of the observations made by teaching faculty about how improvements in learning as a result of the help provided by the library, if any, were known. At a broader level, it sought to provide insights into evidence-based practice: how can the impact of school library programs be observed and demonstrated? (Loertscher with Todd, 2003; Todd, 2002a, 2002b, 2004).

### Faculty Demographics

The data analysis and subsequent reporting of findings and conclusions are based on a dataset of 879 valid responses collected from April 27 to June 30, 2003. In preparation for data analysis, undertaken using SPSS Version 10.0 for Windows, each record was further coded with the Ohio Report Card performance category designation and geographical designation. The sample consisted of 276 men (30.4%) and 603 women (68.6%). The faculty group was primarily White (96.2% of sample) compared with 78.5% of the student sample. Of these, 88.4% were classroom teachers; 5.1% were school librarians, and smaller numbers were principals, assistant principals, and technology specialists. Of the faculty, 82.9% were from schools with performance categories of *excellent* and *effective*. Of these, 87.7% came from urban or suburban districts (compared with 80.9% of the student sample). Of the classroom teachers, 68.8% were female and 31.2% were male; 95.5% of school librarians were female; 59.1% of technology specialists were female; 88.9% of the African-Americans in the sample were women. All African-Americans were classroom teachers, and all principals were White.

### Faculty Responses to 48 Statements

Of the faculty, 99.77% indicated that the school library and its services were perceived to have helped students in some way, regardless of how much and how many kinds of helps, with their learning in and out of school as related to the 48 statements. This compares with 99.44% of the student sample. Of the faculty, 46.53% perceived that the library had helped students, regardless of how much, with their learning on all 48 statements. This is somewhat higher than the student findings, where 25.54% of the sample said that the library had helped them, regardless of how much, with their learning on all 48 statements.

Table 1 shows the 48 statements, the helps measurement, the percentage distribution of faculty responses for all statements, and the rank order of the total number indicating help regardless of level, where 1 represents the highest rank and 48 the lowest.

Table 1  
Helps Statements and Percentage of Responses

Faculty Survey Statements by Blocks	Percentage of Responses					
	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Block 1: How helpful the school library is for students with getting information they need.						
Q11: The school library has helped students know the different steps in finding and using information.	96.9 (10)	55.7	34.1	5.9	1.1	3.1
Q12: Information in the school library has helped students work out the questions for the topics they are working on.	96.8 (11)	52.8	35.4	7.2	1.5	3.2
Q13: The school library has helped students find different sources of information (such as books, magazines, CDs, websites, videos) for their research topics.	97.4 (5)	62.7	26.6	6.5	1.6	2.6
Q14: The school library has helped students know when they find good information.	96.2 (13)	38.7	38.3	15.5	3.8	3.8
Q15: The school library has helped students find different opinions about their topics.	92.9 (24)	34.7	39.5	14.7	4.1	7.1
Q16: The school library has helped students feel better about doing research.	97.4 (5)	43.8	35.3	12.2	4.2	2.6
Q17: The school library has helped students feel better about asking for assistance when they go there.	97.4 (5)	53.4	30.1	8.2	5.7	2.6
Block 2: How helpful the school library is for students with using the information to complete their school work.						
Q21: The school library has helped students know how to use the different kinds of sources such as books, magazines, CDs, websites, videos.	97.6 (4)	54.9	32.0	9.4	2.2	2.4
Q22: The school library has helped students work out the main ideas in the information they find.	93.9 (20)	25.7	39.8	23.9	4.4	6.1
Q23: The school library has helped students get better at taking notes.	81.2 (45)	11.8	22.8	31.3	15.4	18.8

Block 2: How helpful the school library is for students with using the information to complete their school work.	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q24: The school library has helped students put all the ideas together for their topics.	89.6 (30)	19.7	32.5	26.7	10.7	10.4
Q25: The school library has helped students put ideas in their own words.	87.9 (34)	14.2	24.3	33.8	15.6	12.1
Q26: The school library has helped students think about how they should find information next time.	96.0 (16)	43.2	37.0	12.7	3.1	4.0
Q27: The school library has helped students know that research takes a lot of work.	96.2 (13)	47.6	35.5	9.8	3.4	3.8
Q28: The information students have found in the school library has helped them become more interested in their topics.	95.1 (17)	42.7	34.7	14.2	3.5	4.9
Block 3: How helpful the school library is with students' school work in general.						
Q31: The school library has helped students remember their school work.	75.8 (47)	9.8	24.1	28.0	13.9	24.2
Q32: The school library has helped students get background information for classes.	89.1 (32)	31.2	35.4	17.0	5.6	10.9
Q33: The school library has helped students learn a lot more facts about their topics.	97.7 (2)	52.4	35.0	8.3	1.9	2.3
Q34: The school library has helped students when they do not understand some things they learn about.	93.5 (21)	28.3	35.6	22.5	7.1	6.5
Q35: The school library has helped students figure out if their own ideas are good or bad.	85.7 (39)	14.2	29.6	30.7	11.1	14.3
Q36: The school library has helped students change their minds about some things they thought they knew.	89.1 (32)	20.6	37.4	25.1	5.9	10.9
Q37: The school library has helped students figure out their own opinions on topics.	87.6 (36)	17.4	25.5	26.6	8.1	12.4

*Block 3. How helpful the school library is with students' school work in general.*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q38: The school library has helped students connect different ideas they already have.	91.7 (25)	25.0	38.0	23.7	5.0	8.3
Q39: The school library has helped students talk more in class discussions.	84.6 (40)	19.0	30.7	23.9	11.0	15.4

*Block 4. How helpful the school library is with using computers in the library, at school, and at home.*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q41: Computers in the school library have helped students do their school work better.	97.7 (2)	61.5	23.5	9.9	2.7	2.3
Q42: The school library has gotten students more interested in computers.	96.5 (12)	52.9	27.3	12.7	3.5	3.5
Q43: Computers have helped students find information inside and outside of the school library.	98.1 (1)	69.9	20.6	6.0	1.6	1.9
Q44: The school library has helped students search the Internet better.	97.4 (5)	67.7	20.5	7.1	2.2	2.6
Q45: The school library has helped students be more careful about information they find on the Internet.	96.2 (13)	47.4	29.5	14.6	4.8	3.8
Q46: Computer programs (like PowerPoint, Word, and Excel) in the school library have helped students do their school work.	82.2 (43)	54.7	22.9	9.6	5.0	7.8
Q47: The school library has helped students feel better about using computers to do their school work.	97.4 (5)	55.6	27.3	9.0	4.4	3.6

*Block 5. How helpful the school library is to students with their general reading interests.*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q51: The school library has helped students find stories they like.	91.1 (27)	43.3	29.5	13.7	4.7	8.9
Q52: The school library has helped students read more.	93.3 (22)	37.8	29.6	17.9	8.1	6.7

*Block 5. How helpful the school library is to students with their general reading interests.*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q53: The school library has helped students get better at reading.	77.8 (46)	27.6	29.8	22.0	8.4	12.2
Q54: The school library has helped students enjoy reading more.	91.2 (26)	35.3	27.9	20.0	8.1	8.8
Q55: The school library has helped students be better writers.	86.6 (37)	18.7	27.1	28.4	12.4	13.4

*Block 6. How helpful the school library is to students when they are not at school.*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q61: The school library has helped students discover interesting topics other than their school work.	94.2 (19)	39.2	34.0	16.8	4.1	5.8
Q62: The skills that students have learned in the school library have helped them study at home.	89.3 (31)	21.4	34.2	25.1	8.5	10.7
Q63: The school library has helped students get more organized with their homework.	81.9 (44)	10.6	24.6	30.5	16.3	18.1
Q64: The school library has helped students find information even when they are not at school.	90.9 (28)	33.2	31.7	17.2	8.8	9.1
Q65: The school library lessons have helped students solve problems better.	86.1 (38)	21.4	29.5	26.1	9.2	13.9
Q66: The school library has helped students when they have a personal issue or concern.	71.0 (48)	12.5	16.8	23.9	17.7	29.0
Q67: Information in the school library has helped students decide what they need to do next with their school work.	82.8 (41)	15.0	27.0	26.7	14.1	17.2

*Block 7. Now, some general things (ACADEMIC ACHIEVEMENT):*

	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q71: The library has helped students do their school work better.	93.2 (23)	28.1	37.8	21.3	6.0	6.8
Q72: The school library has helped students get better grades on their projects and assignments.	94.8 (18)	37.3	37.4	15.6	4.4	5.2

Block 7: Now, some general things (ACADEMIC ACHIEVEMENT).	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
Q73: The school library has helped students get better grades on tests and quizzes.	82.4 (42)	13.3	25.7	28.7	14.7	17.6
Q74: The school library has helped students think harder about their school work.	87.8 (35)	19.1	31.6	25.5	11.6	12.2
Q75: The school library has made students more confident about doing their school work.	90.8 (29)	25.5	32.5	24.1	8.6	9.2

### Comparison of the Students and Faculty

Table 2 shows the comparative rank order for each of the seven blocks.

Overall, the average responses from the faculty in all blocks are more positive than those from the students. The top three blocks perceived as helpful to the students are also the top three blocks perceived by the faculty as helpful. Block 6 (Independent Learning) and Block 7 (Achievement) are similarly ranked lowest by faculty and students. The most important differences are with Block 3, which focused particularly on knowledge-content outcomes. Although the students' mean scores for Block 3 were lower than the faculty's, it was ranked second lowest by the faculty and fourth lowest by the students. Because Block 3 focuses on the development of content knowledge and the cognitive processes of building new knowledge, faculty may see that this as their pedagogical domain and central to their

Table 2  
Comparative Descriptive Statistics for each Block

Blocks	Student Mean	Rank Means	Faculty Mean	Rank Means
Block 1: find and locate information	2.5354	1	3.2103	2
Block 2: use information to complete school work	2.2508	3	2.7420	3
Block 3: school work in general	2.0701	4	2.5080	6
Block 4: using computers in the school library, at school, and at home	2.5293	2	3.3081	1
Block 5: general reading interests	1.9069	6	2.6553	4
Block 6: outside school	1.7723	7	2.3119	7
Block 7: some general reactions (Academic Achievement)	1.9656	5	2.5283	5

Ross J. Todd and Carol C. Kuhlthau  
Part 2: Faculty Perceptions

role as teachers rather than that of the library. The faculty's expectations of the school library's role in terms of reading development are higher than the level of helps observed by students, a perception that may equate with a longstanding view of the library as a passive reading resource rather than as an active learning center.

### Knowing How the School Library Helps Students

A strong perception by the faculty emerges from this analysis that school libraries are not marginal to the learning taking place in schools. By asking the faculty to respond to the following statement:

Briefly write down how you know that the school library has helped students with their learning. For example, you have observed improvements in their research assignments, class quizzes after school library classes, or their searching of the internet is better after school library classes. Do not be limited by these examples,

the study sought to identify the basis for the extent of their perceptions. Responses were received from 621 faculty: 522 teachers, 45 school librarians, 17 principals, 17 assistant principals, and 20 technology leaders. Negative views of the school library were expressed in seven of the 621 statements. These statements were from classroom teachers and specifically mentioned inadequacies of information technology and library rules that seemed more like barriers than enablers to access. Consistent with the quantitative data, the statements overall were highly supportive of the school library. From these comments, it is clear that the role of the school library is unequivocally valued in the schools in the sample, and faculty could articulate the basis for their comments in tangible ways.

The qualitative analysis of the positive responses revealed three types of statements. First were statements that directly identified a source or evidence base of their knowing that the school library helped students. Second were statements that provided some understanding of the enablers of these helps. Third were statements that presented a personal appreciation and valuing of the school library such as "our library does an outstanding job" (#366); "our library is a great asset to this building and our educational system" (#458); "Our library, but mostly our librarians, are wonderful!" (#548), and "Our library is a learning hub of the building" (#621). A number of individual statements included several sources of knowing, as well as several statements elucidating contributing factors. The analysis identifies eight sources of knowing as follows:

1. *Student interaction with the school library.* This dimension focuses on observations of students engaging with the school library.
2. *Quality products.* This dimension focuses on observations about the quality of the information products students produce through research activities; these products are representations of their new knowledge and skills.
3. *Research agency.* This dimension focuses on observations about students' development of their research capacity and becoming autonomous researchers.

4. *Reading engagement.* This dimension focuses on observations about active engagement in reading for pleasure.
5. *Information technology capability.* This dimension focuses on observations of students' use of information technology to complete their school work.
6. *Student interaction.* This dimension focuses on observations of students' working together and sharing ideas as a result of their library use.
7. *Student achievement.* This dimension focuses on general observations about student achievement.
8. *Learning attributes and outcomes.* This dimension brings together the more general observations made about students' learning. Table 3 shows a summary of the evidence base and enablers. The numbers in parentheses represent the number of references to a particular category of evidence. The 614 faculty provided 655 discrete statements of how they knew the school library helped students, as well as 143 statements that indicate library-related actions that they believe have contributed to this.

Table 3

Evidences and Enablers of Helps

<p>1. Faculty Observations: <i>QUALITY PRODUCTS</i> (179)</p> <p>Improved in product content (125)</p> <p>Improved writing skills (24)</p> <p>Improved in product delivery (19)</p> <p>Changed Attitudes to doing projects (11)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Resources</b></p> <ul style="list-style-type: none"> <li>• Diversity of resources that provide diversity</li> <li>• Resources targeted to reader ability</li> </ul> <p><b>Instructional Intervention</b></p> <ul style="list-style-type: none"> <li>• Knowing a research process linked to learning task</li> <li>• Identifying key ideas</li> <li>• Identifying ideas in conflict</li> <li>• Structuring ideas</li> <li>• Developing arguments</li> <li>• Developing organizational structures for ideas</li> <li>• Provision of staged feedback</li> </ul>
<p>2. Faculty Observations: <i>RESEARCH AGENCY</i> (138)</p> <p>Enhanced research skills (general) (34)</p> <p>Improved information seeking (41)</p> <p>Improved information use (56)</p> <p>Changed attitudes about doing research (7)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Library as extension of classroom</b></p> <ul style="list-style-type: none"> <li>• Planning and teaching lessons with teachers</li> <li>• Planning resources together</li> <li>• Planning assessment tasks together</li> <li>• Open scheduling</li> </ul> <p><b>Instructional intervention focuses on</b></p> <ul style="list-style-type: none"> <li>• Determination of information quality: evaluation of websites</li> <li>• Learn tools to produce products</li> <li>• Use of online databases</li> <li>• Stages of research process</li> </ul>

<p>3. Faculty Observations: <i>INFORMATION TECHNOLOGY CAPABILITY</i> (93)</p> <p>Use of computers (61)</p> <p>Attitude to technology (32)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Information technology access</b></p> <ul style="list-style-type: none"> <li>• Access to state-of-art technology</li> <li>• Availability of software for product generation</li> </ul> <p><b>Instructional intervention</b></p> <ul style="list-style-type: none"> <li>• Technical and evaluative skills</li> </ul>
<p>4. Faculty Observations: <i>LIBRARY INTERACTION</i> (68)</p> <p>Use of library (35)</p> <p>Attitudes to use of the library (33)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Library environment</b></p> <ul style="list-style-type: none"> <li>• Library as welcoming place</li> <li>• Technology access</li> <li>• Diversity of resources</li> <li>• Extended opening hours</li> </ul> <p><b>Capability of school librarian</b></p> <ul style="list-style-type: none"> <li>• Availability of expert assistance</li> <li>• Ready willingness to provide assistance</li> <li>• Friendly positive manner</li> <li>• Ongoing learning maintenance at individual and group level</li> </ul>
<p>5. Faculty Observations: <i>READING ENGAGEMENT</i> (67)</p> <p>Book choice (34)</p> <p>Book use (17)</p> <p>Reading outcomes (16)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Access to literature</b></p> <ul style="list-style-type: none"> <li>• Wide variety of contemporary literature</li> <li>• Literature matched to student interests</li> </ul> <p><b>Strategies to foster enjoyment of reading</b></p> <ul style="list-style-type: none"> <li>• Book talks and promotions</li> <li>• Author visits</li> <li>• Reading contests</li> <li>• Reading clubs / circles</li> <li>• Special initiatives for reluctant readers</li> <li>• Silent reading time</li> <li>• Writing workshops</li> </ul>
<p>6. Faculty Observations: <i>LEARNING ATTRIBUTES AND OUTCOMES</i> (53)</p> <p>More active engagement in learning (31)</p> <p>Independence of learning / personal agency (22)</p>	<p><i>Enablers / Contributors</i></p> <p><b>Access to resources</b></p> <ul style="list-style-type: none"> <li>• Diversity of resources and ideas</li> <li>• Access to library, web site and resources at home</li> </ul> <p><b>Librarian interventions</b></p> <ul style="list-style-type: none"> <li>• Opportunities to practice</li> <li>• Ongoing review of learning by school librarian</li> </ul>

7. Faculty Observations: STUDENT INTERACTION (46)	Enablers / Contributors
Group participation (11) Communication (35)	<p>Access to resources</p> <ul style="list-style-type: none"> <li>• Diversity of resources and ideas</li> </ul> <p>Access to school librarian</p> <ul style="list-style-type: none"> <li>• Being able to ask questions and engage in open dialogue about research task and process</li> </ul>
8. Faculty Observations: STUDENT ACHIEVEMENT (11)	Enablers / Contributors
Increase in quiz scores (11)	Meaningful engagement with ideas

The most predominant way that the faculty saw the school library helping their students was in relation to quality products. Evidence of this help was seen in improvement in the quality of research assignments, projects, reports, and presentations that the students submitted for assessment. This improvement was often articulated in general statements such as "the quality of student projects has improved dramatically over the last 5 years" (#1), "I have seen improvement in their research assignments" (#418), and "turned in papers that are tremendously improved" (#328). Many statements were more specific, however, identifying particular qualities of these products where improvements were identified. These included content-related aspects such as choice of more interesting topics, use of a range of sources to construct their assignments, increased range, depth, and accuracy of ideas, sequencing and structure of ideas, and acknowledging sources and citing them accurately. For example, one social science teacher said,

My students produce several short research projects that involve searching the Internet and the library for different ideas, pictures/photos, background information, and statistics. They also use the art and word programs to create these one-page projects. They are becoming more and more creative and using more substantive and accurate information than they did at the beginning of the year. The sources used are more credible; they are more accurate at citing sources, and arranging their ideas. (#237)

Faculty also saw evidence of the library's help linked to quality products in terms of improvements in writing skills such as writing that showed greater evidence of higher-level thinking skills, improved problem-solving, and evidence of greater interpretive insights. For example, one teacher commented,

I have seen students use higher level thinking skills at the prompting of the media specialist, and they carry this over to the writing of their projects. Students create authentic products that they share with a real audience because of the availability of multimedia software and technology in the media center. (#22)

Another teacher observed, "Students seem to be problem solving while in the library, and this shows up in better written projects" (#573)

Some faculty saw changes in patterns of student submission of assignments such as completing their tasks in a more efficient and on-time manner, showing a greater willingness to invest time in doing the projects and sustaining engagement until the time of submission, students being more excited about topics, and an increased valuing of the effort of doing good research. For example, "Students seem much more interested and involved in their projects, are prepared to out the hard work into them because they know how to research them well, right to the end of the projects," (#582) and "Students are able to produce a better end product in less time" (#97).

The statements about quality products also identified two contributing factors. The first was availability and access to quality resources targeted to specific learning needs and reading levels, which provided diversity of ideas, arguments, facts, and viewpoints. This provided a basis for students interrogating ideas, questioning various perspectives, and being able to write credible arguments. The second factor relates to instructional intervention to develop the essential competences of students as effective researchers. These interventions focus on working with information to create new understandings, identify key ideas, identify ideas in conflict, structure ideas, develop arguments, develop organizational schemas for ideas, as well as providing feedback to students during the various stages of their research. For example,

My students know how to get the right facts and bring them into a logical sequence for their papers. They can argue their points much better, and question some of the material they use, rather than accepting it at face value. They hunt out different opinions. (#261)

One appreciative teacher sums this up:

I think that our library has helped our students most significantly with research projects, both large and small. The librarians in our library are very very helpful and ask students questions about what they are researching. In their classes they help guide students to various sources or refine their topics to be more focused. The library is organized well and students have learned how to use a computerized catalog to find resources that meet their needs and that they can actually read. There are also several computers in the library with software programs to create assignments as well as internet access to assist with research. Students have been taught how to use these programs creatively. Our librarian usually has classes sit in the classroom within our library at the start of research projects to give a whole class lesson about where to find information regarding individual projects, and how to record ideas and build an argument. Also, they sometimes pull books aside that focus on topics to help students get a start. Thanks! (#65)

A social science teacher wrote this statement:

I know the library has helped my students with their learning because several times, students have come up to me and said, "I didn't know ..." or "Guess what!! ..." Researching in the library has helped students be able to find answers to questions they want to know that their book does not cover. Students have also learned internet skills like how to use a search engine, locate information, cite a website, use pictures. We have also used the library to sharp-

en our investigation skills by solving mysteries and identifying who is lying by looking up facts in an atlas, almanac, encyclopedia. Using the library has been very beneficial, especially for my students. (#154)

The second most predominant evidence of the library's help focuses on observations about students' development of their research capacity. Faculty identified increased facility with research: students becoming more skilled at research through their use of the library. They saw evidence of enhanced research skills, for example, "My students have learned better research skills" (#606), and "Students exhibited much better research skills after instruction from the librarians about different types of resources available" (#608). Teachers were also able to identify specific skills such as improved information-seeking evidenced by better skills in finding, locating, and selecting sources and ideas and a sharper focus on topics and task; improved note-taking skills; improved ability to establish quality and appropriateness of sources and ideas; and more positive attitudes toward engaging in a research process. This was succinctly expressed by one science teacher:

Students have greatly improved their research skills. They know how to find and various, credible resources that are available for them and to use them to find necessary information. They are also much better at tying the information together to successfully complete the project. They show good skills at zeroing in on the most important facts, and expressing them in their own words. (#80)

Two key contributors or enablers were identified in the analysis of the 138 statements about research agency. These are instructional intervention and the school librarian and classroom teachers working together as partner-leaders in the design and delivery of meaningful learning experiences. Faculty saw instructional intervention that focused on determining information quality and appropriateness, evaluation of Web sites, learning presentation tools to produce products, use of online databases, and the various stages of the research process, particularly useful to helping students analyze and synthesize information. Faculty also valued the school library as an extension of the classroom, that is, where there was synergy between learning in the classroom and learning in the library. For example,

I know this because my colleague and I work with our librarian. Lesson plans and student worksheets have been developed together to assist students with the topic they are working with. The librarian works closely with us and the students to ensure they have the necessary materials and research and writing skills to develop a quality product. (#93)

This involved discussing research tasks, planning and teaching lessons together, planning resources together, planning assessment tasks together, and giving access to the library through open scheduling.

My students' projects have improved greatly throughout the year as a result of some cooperative teaching with the library. They have gained valuable skills such as narrowing an internet search, creating Inspiration projects, research using a variety of media sources. I've met with the librarian to plan this thoroughly. She has lots of creative ideas with classes, always asks me about the

skills the students have or do not have so we can target those, and simply puts a lot of effort into making the library just another part of my classroom. It really works. (#137)

The third most predominant evidence of the library's help centered on students' increasing information technology capabilities. These included increased confidence in using technology, increased competence in using technology as part of the search process and in creating the actual products, and ethical and appropriate use of information technology. For example, one school principal commented, "The school library has been instrumental in helping students develop confidence, common sense and skills in using technology for research and academic tasks" (#35). Another observed:

Access to information technology in the library enhances learning as well as the students get breadth and depth of information. Students have been taught the research process which is logical and organized, and know how to use the technology according to the appropriate guidelines. These organizational skills have flowed over into other assigned work resulting in much better quality of responses. Students love to come to the library to learn new things. (#76)

A classroom teacher also observed:

I believe that my students have benefited the most in the area of research. Their research skills have improved a lot because they were given the opportunity to practice those skills several times in the library and in my room on the laptops (that were provided by the library). My students seem to really enjoy research when it involves the use of computers" (#389).

The role of instructional intervention was also identified as a key enabler of the improved use of information technology, as expressed by this science teacher:

During research projects as early as October this year, students felt confident in their abilities to use the computer to find information as well as how to find books and other resources for their reports. My students have a great knowledge of how the Internet and the library work. Without their library classes, I do not feel they would be as confident. Also, our library teaches a lot of things that we can take off our backs as classroom teachers because it is so well covered by the media specialists! (#244)

And by a grade 9 English teacher:

I have seen the students use the computers that are in our classroom for research in finding all kinds of information. They have been carefully trained in these skills. They are comfortable and know just what to do. I have also seen them able to carry that over to research at home on their computers. Finally, when I have accompanied them to the IMC, I have observed the use of different media—and the connection to good literature. The IMC in our school is AWE-SOME! So is our director! (#430)

It is clear that improvements in reading as part of helps from the library form part of the observations made by faculty. They particularly identified students as being increasingly excited about choosing books.

The library has helped students find books of interest to expand their knowledge of the world around them. It has also helped them to find books needed

for school reports. I have seen students get excited about the fiction they are reading and tell me how much they enjoy this. (#138)

They said that students' reading choices were becoming more varied, they saw increased borrowing of books for pleasure, and increased conversation about general reading interests.

My students have had so much help completing their English research projects by using their high school library!! They get help in choosing fiction to read, and their tastes and interests seem to be becoming wider. They do not stop at reading one kind of genre now. (#289)

Several faculty noted improvement in reading levels and improvement in creative writing.

I can't imagine our school operating without the library. That's how integrated it is with curriculum research, computer training, interesting readings to improve reading literacy, etc. It is a place where a student's imagination can freely wander or become very focused, based upon the needs of the student (or teacher). It really does help students to become thoughtful and creative writers. (#318)

Teachers identified a range of library initiatives that fostered these reading outcomes. These included the provision of a wide variety of contemporary literature matched to students' interests and reading abilities; using strategies to foster enjoyment of reading such as book talks and promotions; visits by authors, reading contests, reading clubs, and literature circles; provision of special initiatives for reluctant readers; silent reading time; and writing workshops. Evident in some comments is a holistic view of the role of the library in student learning, encompassing a wide range of learning initiatives as well as a focus on reading enrichment. For example,

My students benefit in many ways. The start-of-the-year orientation informs students regarding services and materials news to the library for this specific year. Imbedded in this orientation is a brief review that helps the kids remember how to use the library efficiently. They appear to do this. This efficiency is evident in more thoroughly researched topics. When the research takes less time and is not as much work, more research is done. This additional research helps the student scaffold their new ideas to their previous learning.

Consequently, essays are more logical and clear. Class discussions encompass deeper analysis. Also, our librarian travels to classrooms where she gives "Book Talks" to promote recreational reading and to help in the selection of "choice" novels offered in our English classes. I see students trying new authors or reading another book by a favorite author. This behavior indicates a long-term change. Our librarians inspire life-long learners. This cannot be measured on a quiz or a test. These "Book Talks" strengthen the reading-writing connection that the current research shows predicts personal, academic, and economic success. (#178).

Faculty also found evidence of library helps in how students engaged with the school library. This centered on two aspects: their use of the library and their attitudes to using the library. Faculty observed students spending more time in the library, particularly of their own free will. They saw students becoming more comfortable with using the resources and observed a

reduction in the frustration students had experienced with accessing information in the past. One school librarian commented:

Students in our library are comfortable using a number of resources, including the Internet. I have seen them grow more confident and comfortable in the use of library resources over time. They have also become better notetakers, and are able to organize the information they locate. I also feel that their reading choices have become more sophisticated, and even kindergartners know where to locate their favorite topics and authors. Perhaps most importantly, I have seen a change in attitude towards the library. It is no longer a "once a week special," but rather a place rich in resources that is, more than anything, an extension of the classroom. (#2)

This is echoed by many classroom teachers, for example,

Our students feel much more comfortable in the library than they have in the past. They do not hesitate to use the facilities, are not afraid to ask for help, and frequently ask to use the resources available there. (#55)

I see eagerness to use the library, less stressful attitude about written work having computer access, and improvement in quality of projects. (#333)

Some contributing factors were articulated by the faculty such as the library being a welcoming place, a high level of open technology access, the diversity of resources, and access to library facilities other than at scheduled class times including extended opening hours. As an example, one school principal said,

The school library is a welcoming place where students have access most any time of the school day to get help—via Internet, books and other resources in the library, and help from an expert media specialist. Our library is a center for student help in many areas. (#384)

In particular, attributes of the school librarian were identified as enablers. These included availability of expert assistance; ready willingness to provide assistance; friendly, positive manner; and engaging in ongoing learning maintenance at the individual and group level, that is, following up with students and discussing their progress. One assistant principal wrote:

The students are very comfortable with using the research tools provided by the school library, be it computers, research databases, or print resources. In addition to students' ease of use in library resources, they enjoy coming to the library to research. The librarian has developed positive relationships with students and offers assistance when needed, allowing students the opportunity to complete assignments on time as well as increasing awareness of how and where to locate information necessary. (#101)

Evidence of the school library's help was observed through students exhibiting a range of learning attributes. Faculty in particular observed more active engagement in learning such as increased intellectual curiosity in their classes, increased creativity, greater insight, increased control of own learning, and increased ownership of success or failure. For example, teachers spoke of the library encouraging "more creative lab writeups" (#414); "an active intellectual curiosity in each student" (#5); increased

"motivation and interest in projects by going to a different place in the school where they can perform research and be creative with their own ideas" (#436); and completing projects that "reflect more thoughtful ideas and creative ways to present the material" (#460). One teacher, also a parent, added this viewpoint:

I am also the parent of a sophomore and have watched my daughter in action at the library and at home. She has learned computer programs in the school library and has put them to use in her school projects and methods of studying. She is not content with "blah" and tries her best to be creative and accurate in her work. The library has been a big part of her education. (#62)

The faculty also saw evidence of learning attributes in terms of the development of independence in learning. This was shown particularly through students transferring learned skills to other research tasks and other classes, as well as using technology skills at home or in other information agencies. An assistant principal said:

Being able to do research in varied ways like internet, magazines, books, etc. has increased the quality of work that we see in our students' research and knowledge of a topic. The students also exhibit more independence when they can use the library to find information, and are able to use these skills at home. (#60)

This independence was also evident across classes. "They have learned many research skills, which I see them using in the different classes. They seem to make the connection from one project in one course and another project in another course" (#243). One principal wrote:

The school library has helped students with their learning evidenced by students demonstrating an increased interest and proficiency using technology to find information, a willingness to investigate and evaluate a variety of sources of information, and interest in researching related topics. An additional benefit is the self-directed learning I observe. (#555)

The faculty identified several contributory factors. These were primarily the availability of a diverse range of resources and ideas, access to library Web site and resources at home, opportunities to practice, and ongoing review of learning by school librarian.

I feel that the school library has been very helpful with students while they are researching a specific topic. The school library has worked with students on specific skills. Students practice using dictionaries, atlas, encyclopedias and other researching skills, and they use these in different projects. (#316)

The opportunity to practice was acknowledged by several teachers, for example, "Students are better at using the internet to find information after instruction and practice in the library, and getting feedback on progress" (#73). A technology teacher saw multiple opportunities for practice.

Practice exams and quizzes put in the library computers have helped students get extra practice. Students are able to do web-based HW assignments that give immediate feedback and multiple submissions thus encouraging students to work harder at the assignments, students also get lots of feedback from the librarians when they are doing their research assignments. (#81)

Faculty saw evidence of the library's help in terms of students' communicative activities. They observed students enjoying studying together, working as teams on projects, increased confidence in presentations, increased quality of classroom discussion after library visits, increases in the quality and frequency of questions about research topics, and increased retention of content that could be used in later discussions. For example,

We have done many health and science projects in our library computer lab. The students have learned how to better access information on the internet and have also put together PowerPoint presentations. They have become adept at using these facilities and have more confidence with their research, and presenting their ideas in class. (#601)

And "The library has helped students research and explore topics they knew little about at the beginning. As they read and gathered information classroom discussions improved and different ideas came out in the class" (#325). For one teacher, this improvement was seen in terms of "Reports and class discussions are more accurate, interesting and complete when presented by students who used the library in the preparation of their reports" (#46). Evidence was also shown in terms of students' answers to questions, for example, "We do a research assignment every week. Students can find the answer to any question or problem and have shown great improvement in answering higher level questions" (#462), and "The students ask questions in class that are related to their research and share information that is new or surprising to them" (#561). Faculty identified two key factors that contributed to this evidence. These were access to diversity of resources and ideas and access to school librarians and being able to ask questions and engage in open dialogue with school librarians about the research task and process.

A small number of faculty saw evidence of the library's help in terms of improved scores on quizzes and exams. For example, "Students are very willing to learn technology. Many who would not have otherwise done assignments, do these and have then received greatly increased scores on their tests and quizzes" (#76).

I only teach two classes at the high school. Recently I brought my students to the library for research. I know that the time we did go there, students improved on their quiz the next day. I also know for a fact that many of my students now access my web page at home to review for tests and quizzes because I showed them how to do it at the library" (#394); and "I have observed improvements in their research assignments, class quizzes and their searching of the internet is better after school library. (#417)

In the light of an increasing educational focus on measures designed to close achievement gaps between various groups of students (e.g., the *No Child Left Behind Act*, 2002 in the United States), one interesting pattern that emerges from this analysis is the contribution of the school library to helping children with special needs. Teachers working with special-needs students identify a range of helps from the school library and value the role of the school librarian in enabling these students to progress with their

schooling. Faculty see increased enjoyment of learning, increased confidence, and improved information skills. These are illustrated in the following comments.

I teach Special Education and our library as well as its staff members have helped my students in every way possible that is within reason. My students are learning to enjoy learning through the library. (#11)

The school library has made my special education students much more confident in searching and reading about many topics. Many of my students were very intimidated by computers due to lack of exposure at home but once they were able to gain experience at school they developed a more positive, enthusiastic attitude. (#43)

I am a special educator and am frequently impressed by the knowledge of computers and how to find things that students walk away from our library with. I have also observed during class time how helpful the library staff is in assisting students to find appropriate materials and go about research in the best way possible. It is also apparent that the help received from the librarian outside of the classroom in team units, etc... has improved and increased student knowledge and love of learning. (#100)

By using the computers in the library, the students have enhanced their life-skills that are necessary for daily living. Some of these skills include math and reading. This is especially important in a Special Education curriculum. (#108)

Our school library is very valuable to my special ed students. We have learned to use the computer for Power Point, Inspiration, Microsoft Word and many other things. Our librarian is very good at working with my special education students. She is always willing to help me to find websites and information to assist in my class, and they show that they are making progress. (#148)

The best thing the school library does for my special education students is to stimulate their curiosity and encourage them to expand their reading choices. By expanding their reading choices, they gain a better sense of the world around them and it helps them then relate better to their peers. By relating better to their peers, my spec. ed. students teach their peers that everyone belongs and has a place in the community. These peers will become the employers of the spec. ed students in the future. (#373)

### Conclusion

School faculty do value the school library and do see it playing an important role in student learning in tangible ways. The extent and levels of help provided to the students in the quantitative analysis, which are strongest in terms of using computers, finding and locating information, and using information to complete school work, appear to triangulate nicely with evidence of help as identified in the qualitative analysis. This evidence focuses on the outcomes of library helps such as quality products that reflect effective researching and engaging with information meaningfully to construct new understandings, soundly developed research skills, and the capable use of information technology to meet information needs. Ranked lower in the quantitative analysis were reading dimensions, independent learning,

and academic achievement dimensions, and these correspondingly provided fewer statements of evidence. It is also acknowledged that reading for pleasure and independent learning often take place away from the school environment and not under the direct observation of school faculty.

It is clear in this study that the perceived value and contribution of a school library is not a given by virtue of the presence of a library facility and a credentialed school librarian in the school building. Faculty say that many learning opportunities abound in a school library and that it takes effort, commitment, and shared leadership on the part of the whole school to realize these opportunities and to identify and celebrate the learning outcomes that flow from them. This study provides insights into how this shared leadership may play out. First, the provision of a strong informational infrastructure, centering on diverse sources in multiple formats targeted to learning levels, learning styles, and interest levels, and a backbone of state-of-the-art information technology are fundamental. The faculty see these as critical to effective learning in an Information Age school, and they form the backbone for meaningful learning initiatives. Second, the transformational role of the school librarian working as an information-learning specialist ensures that this backbone enables students to engage purposefully and meaningfully with information in order to learn successfully. The faculty value this instructional intervention, particularly when it is a shared and negotiated process and where the library becomes part of the classroom. Part of creating effective school libraries is a credentialed school librarian who has the pedagogical background to engage in shared instructional initiatives to help students learn and achieve. Faculty in this study identify this as a key element to making visible the helps of the school library. The role of information-learning specialist embeds a range of expertise. First is an instructional designer who creates and delivers information literacy instruction at class, group and individual levels. Second is an educational partner-leader who collaborates, negotiates, and plans with school administrators, teachers, students, and even parents to implement effective information-learning throughout the school curriculum. Third is a school library program administrator who negotiates, plans, and implements a whole-school program that articulates the integration of information, transformation, and formation, as well as the managerial and organizational dimensions of the role. Fourth is as a partner-leader in the provision of learning-oriented professional development targeted to the whole-school success of learning goals. Fifth is facilitating all stakeholders to engage in sustained and action-oriented discussions in the context of continual improvement of the necessary resources, technology, and instructional and staffing requirements needed to maximize learning opportunities through school libraries.

### References

- Hartzell, G. (2002). The principal's perceptions of school libraries and teacher-librarians. *School Libraries Worldwide*, 8(1), 92-110.

- Henri, J., & Boyd, S. (2002). Teacher librarian influence: Principal and teacher librarian perspectives. *School Libraries Worldwide*, 8(2), 1-17.
- Henri, J., Hay, L., & Oberg, D. (2002). An international study on principal influence and information services in schools: Synergy in themes and methods. *School Libraries Worldwide*, 8(1), 49-70.
- Lau, D. (2002). What does your boss think about you? *School Library Journal*, 48(9), 52-55.
- Loertscher, D., with Todd, R.J. (2003). *We boast achievement! Evidence-based practice for school library media specialists*. Salt Lake City, UT: Hi Willow Research & Publishing.
- McAfee Hopkins, D. & Zweizig, D. (1999). Student learning opportunities summarize Library Power. *School Libraries Worldwide*, 5(2), 97-110.
- Nakamura, Y. (2000). Teachers' perceptions of school libraries: Comparisons from Tokyo and Honolulu. *School Libraries Worldwide*, 6(1), 66-87.
- Todd, R. (2001). *Transitions for preferred futures of school libraries: Knowledge space, not information place; connections, not collections; actions, not positions; evidence, not advocacy*. Keynote address at the International Association of School Libraries (IASL) Conference, Auckland, New Zealand. Keynote paper, IASL Conference 2001 virtual session: Paper from Ross Todd, available online at IASL: school libraries online: <http://www.iasl-slo.org/virtualpaper2001.html>
- Todd, R. (2002a). Evidence-based practice I: The sustainable future for teacher-librarians. *Scan*, 21(1), 30-37.
- Todd, R. (2002). Evidence based practice II: Getting into the action. *Scan*, 21(2), 34-41.
- Todd, R. (2004). Evidence-based practice: Difference, intervention and transformation. *Scan*, 22(4), 30-37.

### Author Notes

Ross J. Todd is an associate professor in the School of Communication, Information and Library Studies at Rutgers, the State University of New Jersey. He is Director of the undergraduate program in Information Technology and Informatics, and Director of Research in the Center for International Scholarship in School Libraries. Current research focuses on three key themes: examining the impact of implementing an inquiry-based approach to learning; understanding more fully the cognitive dynamics of adolescent information seeking and use; and developing an evidence-based practice framework for school librarians.

Carol Kuhlthau is a professor in the School of Communication, Information and Library Studies at Rutgers, the State University of New Jersey. She is Director of the Center for International Scholarship in School Libraries. Known for her research into the user's perspective of the information search process, she has written numerous papers, articles, and books including *Seeking Meaning: A Process Approach to Library and Information Services and Teaching the Library Research Process*.