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Student Learning Through Ohio School Libraries, Part 1: How Effective School Libraries Help Students

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This article provides an overview of the Student Learning Through Ohio School Libraries research study undertaken from October 2002 through December 2003. The study involved 39 effective school libraries across Ohio; the participants included 13,123 students in grades 3 to 12 and 879 faculty. The focus question of the study was: How do school libraries help students with their learning in and away from school? The findings, both quantitative and qualitative, showed that effective school libraries help students with their learning in many ways across the various grade levels. Effective school libraries play an active rather than passive role in students' learning. The concept of help was understood in two ways: help-as-inputs, or help that engages students in the process of effective learning through the school library; and help-as-outcomes/impacts, or demonstrated outcomes of meaningful learning—academic achievement and personal agency. The study shows that an effective school library is not just informational, but transformational and formational, leading to knowledge creation, knowledge production, knowledge dissemination, and knowledge use, as well as the development of information values.

Introduction

Historically, library services worldwide have been based on the assumption that they contribute to the social good, facilitating personal decision-making, societal well-being, the growth of democracy, and the development of a knowledgeable society (Kranich, 2001). Yet understanding how libraries actually help people remains a vexing question. Increasingly, service providers, funding authorities, and publics are calling for clear evidence that expended resources actually produce benefits for people (Durrance & Fisher-Pettigrew, 2002). School libraries are not immune to such calls. In an environment of reduced budgets and staffing, and a prevailing public perception that school libraries are marginal rather than integral to student learning outcomes, there is an urgent need for school librarians to demonstrate and substantiate the vital effect of their school library program on student learning and to take an evidence-based approach to practice (Todd, 2002a, 2002b).

How Do School Libraries Help?

The central concept of this research is *help*, and it is embedded in the focus question: How do school libraries help students with their learning in and away from school? Help refers to both the institutional involvement

through advice and assistance in the information experiences of people (helps-as-inputs) and the effect of this involvement on the people it serves (helps-as-outcomes/impacts). This study has been informed by four streams of literature: the information search process, information intents, outcomes measurement, and information literacy standards. Each is briefly elaborated here to establish the theoretical underpinnings and research base of this study.

The Information Search Process

Kuhlthau's research (1991, 1994, 1999, 2004) provides an understanding of the cognitive, affective, and behavioral dimensions of the information search process and presents an understanding of the information-to-knowledge experience of people. This work emphasizes how people may be enabled and supported in their quest to seek meaning and develop understanding through information-seeking and use. Mediation and intervention as key help mechanisms are central to this process. Kuhlthau (2004) defines mediation as the "human intervention to assist information seeking and learning from information access and use... a person who assists, guides, enables, and otherwise intervenes in another person's information search process" (p. 107). Intervention centers on how "mediators become involved in the constructive process of another person ... in information seeking and use" (p. 127). Kuhlthau's research shows that most interventions tend to be based on source and certainty orientations, that is, matching a person's query with the organized collection and often with little attention given to the holistic experience of users in the process of constructing new understandings and meanings. Little research explores interventions and their outcomes beyond this source orientation.

Information Intents

Todd's (1999, in press) theory of Information Intent proposes that engaging with information to construct new knowledge can be characterized by five information intents, which are both drivers and effects of using information. The intents—Get a Complete Picture, Get a Changed Picture, Get a Clearer Picture, Get a Verified Picture, and Get a Position in a Picture—are manifested in distinct patterns of changes to knowledge structures. The theory of Information Intent posits that people engage with information in purposeful, deliberate, and selective ways to attain expanded and/or changed and/or clearer and/or verified pictures and/or by being able to state positions. Information intents enable people to move forward in their information endeavors, constructing new pictures that represent new understandings. These intents are shaped by individual frames of reference such as personal experience, existing knowledge, and the information task. Information intents enable the articulation of helps in terms of learning and remembering facts; developing understanding of ideas; figuring out the worth of ideas; establishing viewpoints and perspectives; and confirming, disconfirming, and changing ideas.

Information Literacy

The Information Literacy Standards for Student Learning (American Library Association, 1998) provide a professional mandate for instructional intervention in terms of information competences. The outcomes of these competences are expressed in terms of procedural knowledge (how-to knowledge such as a range of information-handling skills), and behaviors, attitudes, and values related to information use (such as appreciating literature, striving for excellence in information-seeking and knowledge generation, practicing ethical information behavior, communicating effectively in groups, and becoming independent and ongoing learners). Collectively, these standards provided input into the range of information literacy helps in the study such as note-taking skills, Internet searching and other technical skills, and questioning skills, as well as helps related to reading and writing.

Outcome Measurement

Durrance and Fisher (2003) define outcomes as "benefits to people: specifically, achievements or changes in skill, knowledge, attitude, behavior, condition, or life status for program participants" (p. 306). Their research, a series of in-depth case studies of community-focused information services and programs, resulted in a set of outcomes-measurement tools and outcome statements to help librarians show how these services affect people's lives. For example, outcomes were identified for The Wired for Youth program at the Austin Public Library, a drop-in after-school program that provides access to computers and instruction in computer and Web skills to at-risk youth aged 9 to 13. The outcomes included skills that foster independence with learning, information use skills, and oral and written communication skills. The outcomes also related to perception and attitude changes, including fostering a sense of self, a sense of personal worth, self-importance and self-expression, and changes in their perception of the library and librarians. The study also identified affective outcomes such as increased self-confidence, self-sufficiency, and pride, as well as increased sense of responsibility, respect, and a broadening of world view. These outcome measures were applied to the conceptualization and operationalization of help.

Research Objectives

This research aimed to identify how students benefit from school libraries through elaborating conceptions of help and providing a measure of these helps as perceived by students. It sought to go beyond student achievement as measured by standardized test scores to examine the effect on other dimensions of student learning. In planning the particular focus and approach to data collection, the project team wished to provide statewide data on best practices in school librarianship that might be used in advocacy initiatives, as well as providing a framework for dialog among school

district stakeholders on the value of effective school libraries. It also aimed to provide data that could be used to encourage continual improvement by school librarians and to identify professional development opportunities for building effective school library programs. Help was conceptually defined as institutional involvement through advice and assistance in the information-seeking and use experiences of people (helps-as-inputs) and the effect of the institution's activities and services on the people it serves (helps-as-outcomes/impacts).

Limitations

This study has several limitations. First, it focused on conceptions of helps and did not examine how the school library does not help. This decision was based on the study's broader goal to improve the day-to-day practice of school librarians. Some understandings of how school libraries do not help emerged from this study, and these may shape future research into non-helps. Second, the study did not involve kindergarten-to-grade 2 students. In an extensive pilot study of the survey instrument in a non-selective K-12 school in New Jersey, it was determined that the K-2 students did not have the breadth of library experience or the language capabilities demanded by the survey instrument. Third, the study used the generic label *school library* rather than focusing specifically on the school librarian to provide opportunities to identify helps from both human and nonhuman intervention mediation. In the introduction to the instrument, students were given the following instructions.

This survey wants to find out about the help you get from your school library. To answer the questions, think of all the times you have used the school library, as well as the classes that you have had in the school library to help you learn to find and use the information there.

Research Methodology

Thirty-nine schools across Ohio were selected to participate in the study on the basis of providing an "effective school library program." The criteria for selection were drawn from a series of national and international guidelines for school libraries. A nine-member International Advisory Panel of distinguished scholars and leaders in school librarianship validated the criteria and their indicators. Schools were then invited to nominate (self or other) for selection in the research study, and each school provided substantive documentation addressing the criteria. An Ohio Experts Panel was constituted to make the final selection of participating schools. This panel consisted of 11 leaders from the school library and educational community in Ohio who had in-depth knowledge of a range of school libraries across Ohio. The school librarians in each of the selected schools implemented the data collection process using guidelines established by the project to meet Department of Education regulations and ethical procedures for working with minors under 18 years of age.

Data were collected through the *Impacts on Learning Survey* available through a secure server on the Rutgers University Web system. The survey, designed for students from grade 3 to grade 12, collected both quantitative and qualitative data. It consisted of 48 statements of helps organized into seven conceptual groupings (blocks) derived from the literature review. The seven blocks were:

1. *How helpful the school library is with getting information you need.* This block focused on the process of finding and using information, steps that students equate with doing library-based research.
2. *How helpful the school library is with using the information to complete your school work.* This block focused on the cognitive and meta-cognitive dimensions of using information.
3. *How helpful the school library is with your school work in general.* This block more explicitly focused on cognitive information use and the cognitive drivers and outcomes of engaging with information.
4. *How helpful the school library is with using computers in the library, at school, and at home.* This block focused on the school library's provision of a technological infrastructure, instruction in its use, and the technical tools to create representations of their learning.
5. *How helpful the school library is to you with your general reading interests.* This block focused on perceptions of how the school library supports wider reading interests and fosters the development of reading literacy.
6. *How helpful the school library is to you when you are not at school.* This block focused on understanding how the school library fosters independence and transfer of learning to other contexts and situations
7. *General school aspects.* This block sought to gather perceptions on the school library's links to academic success.

For each statement in the survey, students were asked to reflect on the statement and click the box that matched best how much they thought the school library had helped them. The guidelines were provided in the survey to guide students in working out their response (see Figure 1).

The study also provided an open-ended, critical-incident question (Planagan, 1954) to enable students to articulate in their own voices specific

- ◎◎◎◎ = most helpful (you think you got a great amount of help)
 ◎◎◎ = quite helpful (you think you got a good amount of help)
 ◎◎ = some help (the help you got was ok, so so)
 ◎ = a little help (you think you got just a bit of help)
 If you do not know an answer, or if something does not apply to you, click the box "Does not apply".

Figure 1.

ic instances of helps and their outcomes. This free-writing question read: "Now, remember one time when the school library really helped you. Write about the help that you got, and what you were able to do because of it." This question provided opportunity for students to give witness, if possible, in their own way to the help statements provided, and it enabled students to identify additional conceptions of help and outcomes of help that were not identified in the survey.

Sample Characteristics

The quantitative dataset collected from April 27 to June 30, 2003 consisted of 13,123 valid responses out of a total of 13,328 records received. In addition, 10,315 critical-incident responses were collected. The students were aged from 7 to 20, with an average age of 14.18 years. They were primarily White (78.5%), with smaller groups of African-Americans (5.5%) and students of mixed race (4.1%). In terms of location, 80.9% of the students came from urban or suburban districts, 9.8% from rural areas, 7% from small cities, and 2.3% from large cities. Data analysis was undertaken using SPSS Version 10.0 for Windows.

Findings

Analysis of 48 Statements

The central feature of the survey was soliciting students' perceptions of the extent to which the school library had helped them at school and at home through responses to 48 statements of help. No names appeared on the survey, and for the purposes of analysis, once data were cleaned up, all school identification numbers were removed to ensure anonymity in reporting the data. It was also made clear to participating schools that this study would not generate individual school reports as its purpose was to present a cumulative picture of the collective sample as a whole.

Almost all the student participants (99.44% or 13,050 students) indicated that the school library and its services had helped them in some way with their learning in and out of school. Only 73 students out of 13,123 (0.56% of the total sample) indicated that none of the 48 statements applied to them. This would indicate that the school library plays a comprehensive role in helping most students with their learning in some way. Some students took this as an obvious given and questioned the need for the research in their comments.

I'm in grade 8. I don't get it. Why do I need to do this survey? Isn't it obvious to everyone that we have to have our school library to do all our school work? It's impossible to do it without it, that's for sure. (Grade 8 boy)

We all know that school libraries help students. Why must we have a survey about it? All schools need libraries, so let's not worry about the surveys. (Grade 11 girl)

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Table 1 shows the 48 statements, the helps measurement, the percentage distribution of 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 represents the lowest rank.

Table 1
 Helps Statements and Percentage of Responses

Student Survey Statement by Blocks	Percentage of Responses					
	TOTAL HELPS & RANK	Most helpful	Quite helpful	Some help	A little help	Does not apply
11. The school library has helped me know the different steps in finding and using information.	96.7 (1)	25.7	38.7	22.3	10.1	3.2
12. The information in the school library has helped me work out the questions for the topics I am working on.	95.9 (2)	27.2	37.5	21.3	9.9	4.1
13. The school library has helped me find different sources of information (such as books, magazines, CDs, websites, videos) for my topics.	95.1 (3)	34.0	30.2	19.3	11.6	4.9
14. The school library has helped me know when I find good information.	92.8 (7)	19.9	29.1	26.0	17.9	7.2
15. The school library has helped me find different opinions about my topics.	90.9 (13)	19.2	28.8	25.8	17.2	9.1
16. The school library has helped me feel better about finding information.	90.6 (16)	21.9	28.2	23.2	17.4	9.4
17. The school library has helped me feel good about asking for assistance when I go there.	90.5 (14)	28.8	25.2	18.8	17.9	9.3
<i>Block 2: How helpful the school library is with using the information to complete your school work.</i>		<i>Most helpful</i>	<i>Quite helpful</i>	<i>Some help</i>	<i>A little help</i>	<i>Does not apply</i>
21. The school library has helped me know how to use the different kinds of information sources (such as books, magazine, CDs, websites, videos).	93.7 (6)	31.5	30.4	19.5	12.4	6.3
22. The school library has helped me work out the main ideas in the information I find.	92.1 (10)	17.7	31.9	25.6	16.9	7.9

Block 2. How helpful the school library is with using the information to complete your school work.

	Most helpful	Quite helpful	Some help	A little help	Does not apply	
23. The school library has helped me get better at taking notes.	77.9 (36)	12.8	16.6	20.7	27.8	22.1
24. The school library has helped me put all the ideas together for my topics.	86.6 (21)	14.7	23.9	24.9	23.1	13.4
25. The school library has helped me put ideas in my own words.	82.1 (30)	13.4	20.2	22.5	26.0	17.9
26. The school library has helped me think about how I should go about finding information next time.	92.4 (9)	24.9	29.7	22.5	15.4	7.6
27. The school library has helped me know that research takes a lot of work.	91.0 (12)	32.3	25.9	18.5	14.3	9.0
28. The information I have found in the school library has helped me become more interested in my topics.	89.2 (18)	23.1	25.6	22.1	18.4	10.8

Block 3. How helpful the school library is with your school work in general.

	Most helpful	Quite helpful	Some help	A little help	Does not apply	
31. The school library has helped me remember my school work.	72.4 (47)	11.7	18.8	19.0	22.9	27.6
32. Two of the classes where I have remembered more school work are:						
33. The school library has helped me get the first facts about my topics.	92.1 (11)	23.4	30.3	22.1	16.3	7.9
34. The school library has helped me learn more facts about my topics.	94.3 (5)	31.3	31.4	19.8	11.7	5.7
35. The school library has helped me when I do not understand some things.	90.0 (16)	21.5	26.9	23.8	17.8	10.0
36. The school library has helped me figure out if my own ideas are good or bad.	80.4 (32)	12.5	20.9	23.1	23.9	19.6
37. The school library has helped me change my mind about some things I thought I knew.	84.9 (25)	17.2	23.6	23.5	20.5	15.1
38. The school library has helped me figure out my own opinions on things.	81.4 (31)	15.1	21.5	22.3	22.5	18.6

Block 3. How helpful the school library is with your school work in general.

	Most helpful	Quite helpful	Some help	A little help	Does not apply	
39. The school library has helped me connect different ideas I already have.	85.2 (24)	16.5	24.3	24.0	20.4	14.8
3A. The school library has helped me talk more in class discussions	73.1 (46)	13.4	15.5	17.8	26.5	26.9

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

	Most helpful	Quite helpful	Some help	A little help	Does not apply	
41. Computers in the school library have helped me do my school work better.	92.4 (8)	41.6	24.0	14.3	12.5	7.6
42. The school library has gotten me more interested in computers.	73.9 (28)	24.9	20.5	18.2	20.2	16.1
43. Computers have helped me find information inside and outside of the school library.	94.3 (4)	49.0	21.4	13.8	10.1	5.7
44. The school library has helped me search the Internet better.	89.6 (17)	33.2	23.0	16.9	16.5	10.4
45. The school library has helped me be more careful about information I find on the Internet.	85.7 (23)	24.8	22.7	18.9	19.2	14.3

46. Computer programs (like PowerPoint, Word and Excel) in the school library help me do my school work.

47. The school library has helped me feel better about using computers to do my school work.	85.8 (22)	29.5	22.3	17.0	17.0	14.2
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Block 5. How helpful the school library is to you with your general reading interests.

	Most helpful	Quite helpful	Some help	A little help	Does not apply	
51. The school library has helped me find stories I like.	84.5 (27)	29.3	19.4	17.2	18.7	15.5
52. The school library has helped me read more.	79.4 (33)	20.9	17.0	17.2	24.3	20.6
53. The school library has helped me get better at reading.	74.4 (45)	18.2	15.2	15.8	25.2	25.6
54. The school library has helped me enjoy reading more.	76.7 (39)	20.9	14.0	16.3	25.5	23.3
55. The school library has helped me be a better writer.	74.9 (43)	15.5	16.9	17.9	24.7	25.1

Block 6. How helpful the school library is to you when you are not at school.	Most helpful	Quite helpful	Some help	A little help	Does not apply	
61. The school library has helped me discover interesting topics other than my school work.	78.7 (34)	22.6	21.4	17.1	17.6	21.3
62. Some of these topics are ...						
63. The things I've learned in the school library help me study at home.	82.5 (29)	16.6	21.7	21.4	22.8	17.5
64. The school library has helped me get more organized with my homework.	74.7 (44)	12.4	17.7	19.5	25.1	25.3
65. The school library has helped me find information even when I am not at school.	77.2 (38)	19.3	18.4	17.6	21.8	22.8
66. The school library lessons have helped me solve problems better.	75.4 (42)	13.3	17.4	20.2	24.5	24.6
67. The school library has helped me when I have a personal concern or issue.	60.4 (48)	10.2	12.1	13.8	24.4	39.6
68. Information in the school library has helped me decide what I need to do next with my school work.	78.2 (35)	15.7	17.8	20.6	24.1	21.8
<i>Block 7. Now, some general things (ACADEMIC ACHIEVEMENT)</i>	<i>Most helpful</i>	<i>Quite helpful</i>	<i>Some help</i>	<i>A little help</i>	<i>Does not apply</i>	
71. The school library has helped me do my school work better.	74.7 (26)	21.5	21.7	21.1	20.4	15.3
72. The school library has helped me get better grades on my projects and assignments.	88.5 (19)	26.1	26.4	19.5	16.5	11.5
73. The school library has helped me get better grades on tests and quizzes.	75.4 (41)	13.5	17.2	20.0	24.8	24.6
74. The school library has helped me think harder about my school work.	77.4 (37)	14.8	18.0	20.0	24.7	22.6
75. The school library has helped me feel more confident about doing my school work.	76.6 (40)	17.3	17.7	18.4	23.2	23.4

Table 2 provides the mean scores and standard deviations for each block and the mean scores for each block ranked from highest to lowest.

Table 2
Mean Scores And Standard Deviations For Each Block

BLOCK	NUMBER	MEAN	STANDARD DEVIATION	RANK OF MEAN FROM HIGHEST TO LOWEST
1	13123	2.535	.895	1 (GETTING INFORMATION)
2	13123	2.251	.971	3 (USING INFORMATION)
3	13123	2.070	.999	4 (KNOWLEDGE)
4	13123	2.529	1.042	2 (COMPUTERS)
5	13123	1.907	1.242	6 (READING)
6	13123	1.772	1.100	7 (INDEPENDENT LEARNING)
7	13123	.96	1.179	5 (ACHIEVEMENT)

Commentary on the Findings

Based on both the quantitative and qualitative data collected, the following commentary identifies key findings in each of the seven categories. Quantitative data are illustrated by a small selection of students' statements. The number following each student's statement is the individual record locator.

How helpful the school library is with getting information you need

The school library plays a strong role in helping students find and use information, especially in terms of the steps students equate with doing library-based tasks. Only 3.2% of the participants indicated that this did not apply to them. The school library, and particularly the initiating intervention of the school librarian, helps to engage students in an information needs/questioning process that enables them to start their research, focus their searches, get input on the scope of their projects, identify information needs, understand the nature of the task, and provide resource pathways.

I had to write about Spain for Spanish class and the class came to the library to do research. We've been taught how to do good research, very useful when you are at school with loads of research papers for every class. (#397)

We were just given a project to do in Language Arts, you could choose any topic but your article had to be non fiction. But the library was very helpful for me in choosing my subject and what I needed to find out, researching and then publishing it. If they weren't there, my thoughts would be everywhere! (#1250)

The school library helps students to find appropriate resources across diverse topics and to develop some of the information scaffolds necessary for them to do this on their own such as using catalogs, the Dewey decimal system, and accessing online databases; 95.1% of students indicated help in this regard. Further, 92.8% of students indicated that the school library played a role in helping them determine the quality of information, particularly with the availability of information, misinformation, and disinformation

on the Internet. Students' statements identify and value the role of school librarians' instruction (individual or class) in developing this capacity to judge quality, appropriate information.

In my Advanced Placement English class ... I didn't really know how I should go about researching my topic, and I also didn't know how to sort through the information I gather in order to keep only what I need. The library gave a good class about different internet sources that are wonderful sites to gather information about American literature, such as poetry. We learned how to use periodicals.... I found all of these resources that the library presented me with to be very helpful. I also needed some personal help finding a little known play that I wanted to write about in my paper, and the librarians gave me assistance in finding that play. (#2815)

I had a science project on potassium and I couldn't find that many things on the web so then I went to the librarian and asked her if she could help me find some books so she went online and showed me how to look for books, so she typed in potassium and there popped up a ton of books on potassium ... it was like magic! and there you go :-). But I had to learn how to recognize the good sites, that was harder but worth it with the help I was shown. We even had a class on it too which helped. (#1230)

By providing diverse resources and instruction in the use of multiple formats, the school library helps students access a variety of viewpoints on an issue and enables them to construct their own viewpoint. This embraces understanding various perspectives, identifying differing arguments, and dealing with conflicting viewpoints. The outcome not only provokes thinking about an issue, but developing a balanced view and forming personal positions. Only 9.1% of the sample indicated that this did not apply to them. Undertaking research tasks is often accompanied by frustration, anxiety, and stress, and professional intervention here contributes to students feeling more comfortable, less stressed, and more content with the search process. Most students appear to be willing to ask for help with their information needs and value this assistance in terms of both the affective and cognitive dimensions of their research tasks. They get encouragement, direction, and self-assurance.

I was researching for abortion I needed a lot of different from books and the librarian helped me to find everything I needed, and I think I now understand the two sides and know it's not for me. (#2732)

The school library really helped me with a school project on discrimination. The Library was able to show me how to find information better than I ever had before. That takes so much stress out of doing projects. Because of it I got a great grade on my project, and it helped me be a better student on the next library project. (#2793)

How helpful the school library is with using the information to complete your school work

This block focuses on the cognitive and meta-cognitive dimensions of engaging with and using information. The data show that the school library

helps students know how to use the various information sources and the purposes of these sources in the research process. The students, both in terms of managing projects to completion and accessing quality information, particularly value this instructional intervention through which they have been taught how to identify main ideas, take notes, evaluate, sort, and organize ideas. The students' statements show that there appears to be a pattern of explicit and systematic instruction. They benefit in learning how to analyze and synthesize information to express ideas in their own words and to develop responsibility with information use.

I needed help doing a project for government that had to do with presidents and they had so many books and then the librarian helped me find web sites. But then they gave me ways of sorting through all the ideas to extract the key points so I could get my head around it all. (#100)

I was working on History project and we had to have several sources (primary documents) and the librarians instructed the students on how to go about finding the information we needed and compiling it into something worthwhile. I was able to combine everything together and earn a good grade. (#3532)

The school library helps students develop into reflective thinkers with finding information and encouraging them to learn from their information search experiences. Only 7.6% of the students indicated that this did not apply to them, with more than half indicating that this was quite or most helpful. The students' comments indicate that this help was transferred to other search tasks, developing independence and ease with information-seeking.

I had to do a huge decades project on the 1940s. We came to the school library everyday for an hour during class. The librarians helped us all they could and it was very beneficial, and they checked up on our progress and gave us feedback. When we come into the library next time they remember what they have shown you and expect you to do it, so we try to remember and do it. (#3915)

I remember one time in the library when I had to do a project (book project) and I couldn't find anything on the person I wanted to do it on, but the librarian helped me and I got a really good grade because I like my project. When you come into the library to do another project, not necessarily a book project, you remember what did last time to get a good grade and try to do it right again, like finding the best stuff. (#8275)

Students strongly endorsed that the school library had helped them know that research takes a lot of work and appeared to value the outcome of working hard. They offered examples such as success in presentations, good grades on research projects, and feeling satisfied with the finished product. Only 9% of students said that this did not apply to them.

I really needed help one time searching for a good topic about something that I am interesting in.... I didn't turn it in yet, but I am really organized and doing really well so far, and the librarians are even helping me with the brain strain. Doing good library projects takes so much work but the good grades are worth it. (#50)

Last year I was in an advanced language arts class. The library greatly helped my classmates and I in our two largest assignments of the year.... Our class

took place in our school library, we got lessons from the librarian which were extremely helpful, so we always had information at our disposal. Also, for both topics my classmates and I were able to find a wide variety of information on the internet through the library computers. Our librarian, was also always more than willing to help us find information on our topics and information on how to format our projects. (#1950)

How helpful the school library is with your school work in general
The school library plays a strong role in helping students get the first facts for their topics, with 92.05% of the sample indicating that they had received such help. Typically, students begin a research task as novices in the particular knowledge domain and are required to construct output that represents their new knowledge of the topic as an expert. Getting started in the information-gathering process, gaining a foothold, and focusing on the topic requires developing a foundation of first facts. Students' comments attest to the importance of this foundation, particularly when "you know nothing" in terms of being able to find a starting point for the project, get involved in the project, research better, develop the detail, and achieve a good grade.

The school library helped me do my wetlands project and made it easier. I looked up on Google and got a million responses and trying to find where to start was awful. Then I spoke to the librarian who gave me some easy stuff to read from the encyclopedias and that gave me an idea of what to concentrate on, then I could search for the right stuff. (#8028)

When beginning research for a paper on *The Odyssey* by Homer, I had no ideas on where to begin looking. I asked a librarian for help, and she discussed my ideas with me without making me feel like a dummy, showed me many useful books. When I then wrote the paper, I got an A. My parents were more shocked than I. (#3690)

Although it might be stating the obvious, 94.27% of the students indicated that the library helped them through providing the information base on which they constructed their projects and assignments. Students articulated outcomes such as learning more and interesting things about the topic, progressing with their research, getting good grades, and discovering new information.

I needed to read a book for Literature class so I went to the library to take the book out and they were really helpful. Asked me questions about me so I could read a book I liked. I ended up reading a whole bunch on the topic about social discrimination. Blew my mind, and has made me really think about myself. (#90)

Near the beginning of this school year, my geometry teacher assigned a project that required students to find an artist or art form having to do with geometry. I had recently developed a mild interest in fractal art, so my class partner and I decided to work with fractals. Neither of us really had any idea what we were getting ourselves into until we stopped by the library after school to start our research. Using the library computers and a few website recommendations from the librarians, we found a wealth of online information on fractal theory. The hard part of that project turned out not, as I'd expected, finding information on a rather obscure topic; rather, it became deciding just what information

Ross J. Todd and Carol C. Kuhlthau Part 1: How Effective School Libraries Help to use! The project came out beautifully ... and we ended up with the best grade possible. Not only that, the project sparked my interest in fractals: I am now an unabashed fractal nut, who spends a rather inordinate amount of her free time expanding her knowledge and appreciation of the subject. (#6138)

Ninety percent of the students indicated that the school library helped them when they did not understand something. Almost 50% indicated that this was quite or most helpful. This suggests that the presence of an effective school library goes beyond an information store to that of enabling students to build their understanding and to resolve any misunderstandings or confusions they might have. The students' comments particularly indicate the personal intervention of the school librarian and a library climate that encourages them to seek explanations or to ask for help when they do not understand aspects of their topics. This helps them to decide if their own ideas are good or bad. In providing access to a diverse range of opinions and viewpoints on topics, the library provides a critical point for students to test and work out the validity of their own ideas. The school library helped 80.4% of students in this regard. And 84.9% said that the school library helped them to correct some of their erroneous ideas or to change their opinions. The school library plays a role in moving students from being misinformed to being informed.

The students' comments indicate that the library is important in shaping and changing their minds on issues that matter to them: lifestyle choices (such as diet), social, personal, and political issues (gun control, capital punishment, smoking, racial prejudices). In this sense, the role of the library appears to go beyond providing information—*informational*—to idea formation—*formational*. The comments indicate that these are not trite or superficial or merely academic aspects of learning, but important life concerns: world events, personal issues, environmental issues, and political and historical events.

The school library really helped me with my language arts project on the death penalty. I found a lot of good information, but it has made me think about whether we should have it or not. I don't think we should now. (#1402)

With the resources of our library, I have been able to learn a lot more about topics such as abortion and stem cell research, before I researched and knew exactly what stem cell research was I believed that it was a good thing for science in every aspect, but through research I found that I didn't totally agree with it. I learned from a library computer that aborted babies' stem cells are used. In my opinion, you can't take a life to save a life. The library helped me learn more about this topic and how it affects people. (#10102)

Although the school library contributes to the development of informed students, there is less support for it in enabling students to transfer this expertise to sharing their ideas in class discussions. The statement *The school library has helped me talk more in class discussion* was ranked low (46th out of 48). This may be because the students submit only written documents and are not given the opportunity to share their new understandings in class discussions. It might also be that the students do not make the con-

nection between a school library providing them with information to construct their research products and giving them a factual basis for discussing their topics. The students' comments suggest that this is enhanced when the instructional intervention focuses on presentation and oral communication skills.

One time when I was with my English class we came to the library to look at all the books in the library on racism. Well, I got to read different things which made me further my knowledge about some interesting facts I once never knew before. We got to look at many books. Doing this helped me because when we were in a class discussion I now knew more and could talk more about the things I have now learned! (#2887)

When in English class we had to research for a debate. The librarians got out all the books for us so that we could research more easy and showed us how to be information detectives. With the library I was able to get a good grade on my debate, and I felt more confident about speaking about it in class. (#3952)

How helpful the school library is with using computers in the library, at school, and at home

It is clear that the library's provision of a technological infrastructure, instruction in its use, and information technology tools to create representations of their learning are highly valued by the students. This block of dimensions overall had the highest mean scores of the seven blocks.

Of the students, 84.9% indicated that school library computers helped them do their school work better. They made over 3,000 references to computers, Internet, online information, and the World Wide Web. Two key aspects predominated. First, students saw a clear relationship between being able to access information through information technology and achievement in research assignments and projects. Second, the instructional intervention of the school librarian in helping them become effective users of information technology to search for information and discerning evaluators of Web information played a role in their achieving good grades. The school library has also contributed to students being more interested in computers. However, this aspect did not feature in their comments.

I used the library when I do English assignments, or when I have to do research for history. It helps because of the internet access, and I can research my projects and get a bunch of information on my topics. I was able to write and present to a class on PowerPoint about the combat tactics of the Vietnam war, and the library helped me very much in putting that together with lots of research tips. (#2204)

The most important thing about the school library is access to the computers which are essential to getting current info on many topics. It's impossible to do good work without this available to us, especially when we are doing topics that are happening now in the world. Fortunately we have been taught how to search for this stuff, which is not as easy as it seems. (#9229)

Of the participants, 94.3% said that computers had helped them find information inside and outside the library, with 49% indicating that this dimension was most helpful. Students' comments affirm this helpfulness,

Ross J. Todd and Carol C. Kuhlthau Part 1: How Effective School Libraries Help enabling them to continue their school work at home and to access information elsewhere such as in public libraries.

The one time I remember when the school library helped me is when we learned about places you can go on the internet for information. They told us some sites to go to like the Infonet or infoOhio. They taught us that we can even do this at home too which I often do now. This is how the school library has helped me. (#1236)

One time the library really helped me was when I had to write my research paper. I found a lot of help in how to find good sources and how to use those sources. I learned how to find the best places to get information and how to best put that information together and could search at home and in the public library better. (#9467)

Of the students, 89.6% indicated that the school library had helped them search the Internet better, with 33.2% indicating it was most helpful. Their comments show that the explicit and systematic teaching of Internet searching and research strategies set in the particular research task is a key mechanism in this help, both at an individual and class level. Perhaps more important, the school library plays a critical role in enabling students to be more careful searching the Internet: 47.5% said that this was quite or most helpful. Consistent with other findings, students indicated that this was enabled by instruction that developed skills for evaluating Internet information, enabled them to save time by not having to deal with junk information, and improved their research strategies.

The availability of technical tools in the library to create information products helps students with their school work. Almost 40% indicated that this was most helpful, with 60% indicating that it was quite or most helpful. Consistent with other technology-related statements, this helpfulness is not achieved by the mere availability of technical tools, but through instruction in their effective use. Students made links between this help and success in projects, as demonstrated by good grades. The findings further suggest that the school library contributed to the development of students who feel more positive about the use of information technology to do their school work. As indicated in the students' comments, these feelings included becoming more comfortable and less stressed and worried about using computers. The students identified the personal intervention of the school librarian as an enabling mechanism.

My school library has helped me out on my astronomy project. I had used the Microsoft PowerPoint program. I had got the grade that I wanted which was 100% and plus 35 bonus points. The school library had helped me learn to use all kinds of programs. (#1014)

The library staff was very helpful and helped me learn how to use the computer and feel easier about using them. Computers available to students in the library has drastically improved the student body's knowledge of how to use the internet to find information as well as present it in an organized manner using Microsoft 2000 programs. (#3482)

How helpful the school library is to you with your general reading interests

The overall reading mean score was ranked the second lowest of the seven blocks. Although students' comments indicated that the school library had helped them with reading in many ways, they saw the school library as more helpful in terms of the curriculum resource, technical, and instructional help that enabled them to complete their immediate class needs. Students' comments suggest that knowledge of their reading interests, availability of a range of books, access to current best-seller literature, and follow-up dialogue motivated them to keep reading. Although 74.8% indicated that the library had helped them improve in reading, its mean score (1.75) was low. Nonetheless, students' comments indicate some ways the library has helped them improve their reading when they see that reading is fun and enjoyable, improve their vocabulary, and receive the sustained intervention of the school librarian. In fostering a love of reading and connecting students to books they like to read, the school library appears to contribute to students' enjoyment of reading: 76.7% said that the library helped them enjoy reading more. The comments suggest that a major mechanism is the personal intervention of the school librarian linking students' interest with appropriate literature: 74.9% said that the school library helped them with their writing. This help appears to be strongest when explicit and structured provision is made for developing writing skills: the teaching of information analysis and synthesis as part of information literacy initiatives, and library-based events in collaboration with classroom teachers that focus on development of writing skills.

I've discovered there are loads of good stories I like to read and I just ask the librarian to help me find them. When she sees me she tells me about others and it's cool to know they look out for you. (#7186)

Researching my invention project I got an A. That got me a bit curious about inventions and I got into some of the science fiction with the help of the librarian. Every time she sees me she tells me of the latest book to read and that is cool. I have my own personal bookstore adviser!!!!!! (#5145)

The school library has many popular fiction books. For free reading time almost every day in class the library has helped me select enjoyable books to read. It has heightened my vocabulary with the more challenging books. (#3222)

I love to read. The library introduced me to a new series of books. It was a series of unfortunate events. After I read those, in my writing I wasn't afraid to extend beyond the limits and write creative, far-fetched stories. (#785)

I needed to do a lot of research and get a lot of help for my senior thesis project this year. I got a lot of help from the library and the writing intervention workshop. I was able to make my project a success because writing clearly and logically is very hard, and the good resources and writing techniques helped. (#6215)

The students' comments also provide some insight into the comparatively lower reading scores. Some students do not view the primary role of the school library as supporting their leisure activities or personal pursuits,

seeing this more as the role of the public library. Although they clearly viewed the school library as supporting their information and curriculum needs, they indicated that they were so busy completing research projects for their curriculum requirements that they had little time for more pleasurable reading pursuits. It may be that independent reading is a casualty of intensely academic and test-oriented schooling.

How helpful the school library is to you when you are not at school

School libraries have advocated lifelong learning as a key outcome: students develop skills for engaging with information outside school, for personal interest, discovering ideas and solving school-based and personal life issues. Of the students, 78.7% indicated that the school library helped them discover interesting topics other than their school work. Their comments indicate that this happened in two major ways: first, engaging in a curriculum topic develops into a personal interest; and second, serendipitous browsing may lead to finding interesting topics by chance which they pursue with the help of the school librarian.

Students mentioned 3,952 topics that the school library had helped them discover: 8,325 mentioned two topics and 734 mentioned one. These are across many interest domains. Five topical areas predominate: sports including football, basketball, baseball, and skateboarding; historical, civic, or world events including war, World War II, the Holocaust, current events, news, politics, the Civil War, and famous people; animals including dogs, cats, and horses; social issues or life concerns including social studies, health, careers, drugs, colleges, jobs, and sex; and computers including the Internet. The grade-by-grade analysis shows that sports ranked high in every grade (highest in all grades except 3 and 4 where it was the second highest in both). Interest in animals ranked highly in the elementary school and declined as the grade level increased. A general interest in history in the lower grades gave way to a specific interest in current events and government in grade 12. Focus on career choices emerged in grade 12 (colleges) along with life concern issues (drugs). Boys appeared to prefer action-oriented topics such as sports, cars, animals, sciences, wars, and space; and girls placed stronger emphasis on the arts and literature, as well as sports and animals. The wide range of topics identified would indicate that school libraries provide a diverse information base to serve a wide variety of personal interests outside immediate curriculum needs.

The School Library helped me find out more information on the Holocaust and about Anne Frank. I found the Holocaust very interesting and the Library helped me to receive a better grade in the unit about the Holocaust in my English class. It's also got me interested in the whole human rights thing. (#5394)

One time at school I had a project on Neonatology, which is the study of newborns. I was only interested in the topic but now I am obsessed with it. Our librarian and her aids helped me find the information I needed on this topic. (#10088)

Of the participants, 82.5% said that the school library helped them study at home. Although this was not perceived as most helpful by many students, the comments identify some of the enabling helps to working independently. These include information skills such as locating and accessing electronic information, searching the Web, determining quality information, and constructing final products that are transferable to other settings such as public and university libraries. The skills appear to enable students to apply the skills and work independently. Some students do see the library as enabling them to be more effective problem-solvers, although the support for this statement is weaker than for others: seventh lowest mean score (mean=1.7). The students' comments refer to help in solving technical problems, as well as problems associated with doing the research and specific learning tasks (e.g., math problems). Although almost 40% of the students indicated that this did not apply to them, a small number of statements provided some rich examples of using the library to deal with life concerns.

I once thought that I had a venereal disease and I was terrified. I went to the school library and looked up some info on them and this finally helped me discuss the situation with my parents. (#2185)

Because of the school library, I was able to research the African Hindu Tribes of my native country. This proved extremely helpful in my search for self acceptance. ... I would have never felt in place without this necessary information. (#2378)

General aspects focusing on academic achievement

There is support for the notion that the school library contributes to students doing their school work better. The students' comments often expressed a simple and clear view of the library as being fundamental to their doing school work better and that they could not do without it to achieve success in their schooling. Over half of the students (52.5%) said that the school library was quite or most helpful in helping them get better grades for their projects and assignments. Almost 3,000 students' statements expressed a clear, albeit simple relationship between what the library had done for them and getting a good grade for research-based projects. Although students saw a clear link between library help and grades received on projects and assignments that directly involve interaction with the library, this link is not as strong in terms of grades on tests and quizzes. However, the students' comments suggest that the school librarian's interventions in helping them study more effectively, provision of sample test experiences, and access to materials that relate directly to test content are keys to enabling success on tests. Some solid evidence suggests that the school library is synonymous with thinking about school work. Students' comments convey the idea that the library is a place for learning activism, where the emphasis is on empowering students to use their minds well rather than merely being given the information without requiring any men-

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tal activity. Although there is evidence that the school library helps students feel more confident about doing their school work in general, this statement was ranked low overall. This set of findings provides a particular challenge to school librarians to make explicit to students the relationship between interventions they provide and how these contribute directly to the task at hand, and particularly explaining how this will contribute to learning success, particularly good grades.

Further Conceptions of Help

In addition to the critical-incident question giving concrete witness to the helps identified in the 48 statements, nine additional help constructs were identified. These categories were constructed from 1,723 statements embedded in the written responses of the students. The percentage distribution of these is shown Table 3.

1. *The school library saves me time with doing my school work.* Students' comments related to this aspect conveyed a sense that immediate, local access to information collections, either print or electronic, saved time in completing their research tasks.
2. *The school library enables me to complete my work on time.* Just-in-time learning is evident. On-time completion is a significant matter for the students, and being helped to meet deadlines through a range of library services and interventions was seen as helpful.
3. *The school library helps me by providing a study environment for me to work.* Students identified that the provision of study space for quiet, individual, and at times reflective work is a valued part of the library.
4. *The school library helps me take stress out of learning.* Timely access to resources and the development of the information scaffolds for engaging with information through instruction enables students to deal with

Table 3
Distribution of Further Conceptions of Help

Construct	Number	%
The school library saves me time with doing my school work	425	24.6
The school library enables me to complete my work on time	368	21.4
The school library helps me by providing a study environment for me to work	321	18.6
The school library helps me take stress out of learning	224	13.0
The school library helps me do my work more efficiently	156	9.1
The school library helps me think about the world around me	79	4.6
The school library helps me know my strengths and weaknesses with information use	74	4.3
The school library provides me with a safe environment for ideas investigation	45	2.6
The library helps me set my goals and plan for things	31	1.8

- the stress and anxiety they face. The school library appears to play a role in just-in-time learning and as a coping mechanism.
5. *The school library helps me know my strengths and weaknesses with information use.* The development of meta-cognitive thinkers, showing an ability to step back and reflect on their experiences, understand their learning strengths and weaknesses, and learn by them is facilitated for some students.
 6. *The school library helps me think about the world around me.* Some qualitative evidence suggests that the school library plays a part in the development of global citizens: young people who have a sense of what is going on in the world, thinking about the issues and forming personal opinions about them.
 7. *The school library helps me do my work more efficiently.* Evidence in the student comments suggests that the library, particularly instruction focusing on doing research in systematic, staged, and planned ways, helps students approach their work in a more organized and efficient way.
 8. *The school library provides me with a safe environment for ideas investigation.* Although comparatively there were fewer comments in relation to this construct, some students' comments raise an important notion about the library being a safe place where students can investigate perplexing and controversial issues discreetly, perhaps anonymously, or even come to think and reflect.
 9. *The library helps me set my goals and plan for things.* The students' comments suggest that the school library plays a role in the development of a sense of personal agency. Sense of personal agency refers to a positive concept of oneself and one's abilities: a person who is capable and autonomous and able to set goals and work toward reaching them.

The School Library as a Dynamic Agent of Learning

The findings, both quantitative and qualitative, show that effective school libraries help students with their learning in many ways across the grade levels. Effective school libraries play an active rather than passive role in students' learning. This help is both helps-as-inputs and helps-as-outcomes/impacts: helps that engage students in the process of effective learning through the school library, and helps in terms of demonstrated outcomes of meaningful learning: academic achievement and personal agency. The ranked mean scores for each of the statement blocks indicate that the effective school library helps the most by providing access to information resources that students need to complete their research assignments and projects successfully and providing access to diverse collections (both format and content) in the library and through databases and the World Wide Web. One would expect this to be a key function of any library.

However, effective school libraries go beyond being passive agencies of supply and exchange. Students clearly perceived as helpful the library's part in engaging them in an active process of building their own under-

Ross J. Todd and Carol C. Kuhlthau Part 1: How Effective School Libraries Help standing and knowledge: the library as an agent for active learning. The students indicated that some of the fundamentals necessary for them to construct their own understanding of a topic were: understanding how to do research effectively and knowing how to stage research to achieve immediate goals (such as producing a research report or presentation); understanding how to identify the pertinent ideas; analyzing, synthesizing, and evaluating information; structuring and organizing ideas into a meaningful sequence; and developing personal conclusions, viewpoints, and positions.

An effective school library is not just as an *information place*, but is also a *knowledge space* (Todd, 2001). It is where students develop the appropriate cognitive, behavioral, and affective scaffolds to enable them to engage meaningfully with information, to make decisions about the information they encounter in terms of its worth and appropriateness, and to restructure pertinent information into appropriate representations of their newly acquired understandings. An effective school library is not just *informational*, but *transformational* and *formational*, leading to knowledge creation, knowledge production, knowledge dissemination and knowledge use, as well as the development of informational values. This is shown in Figure 2.

The *informational*, *transformational*, and *formational* elements of the school library are interdependent, working together in integrated and iterative ways to bring about student learning. This integration characterizes the school library as an active agent of learning. The notion of *agent* is an important concept. *Agent* means a condition of being in action or operation, engagement, acting for others. Conceiving and valuing the school library as an agent of learning rather than an agency of information takes away the perception that its primary (and passive) function is the supply and

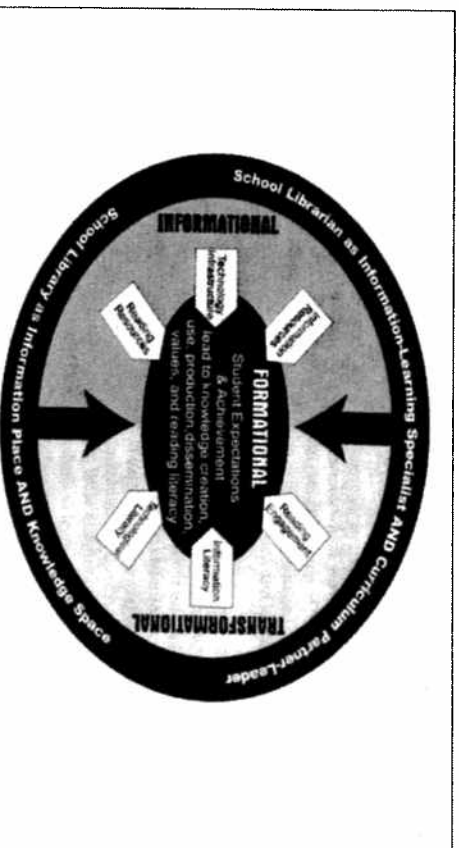


Figure 2. Model of the school library as a dynamic agent of learning.

exchange of information. Effective school libraries are instructional agents, engaging students in active and meaningful search processes: enabling them to explore, formulate, and focus their searches; and providing a supportive environment (personal, physical, and instructional) for them to be successful in their research. Students valued instruction that enabled them to become good researchers and to explore the world of ideas in depth, and many acknowledged that this instruction had a positive effect on their grades.

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 pedagogy clearly plays a key role in maximizing learning outcomes in terms of intellectual quality: the development of higher-order thinking, depth of knowledge, and depth of understanding; the ability to engage in substantive conversation; the ability to recognize knowledge as problematic; and reading literacy grounded in language, grammar, and technical vocabulary. Students' comments show that they saw little value in library instruction that was repetitive, not building on existing knowledge and skills, not contextualized by specific curriculum content and required learning tasks, and that was not clearly and explicitly linked to their goal of completing the research efficiently and successfully. Interventions such as the annual library tour, the repetitive spiels on Dewey, the dos-and-don'ts of the Internet, or the rules about using computers were meaningless unless they conveyed clearly and concretely how they would help students reach their objectives, particularly the successful completion of their research. Students in the study valued the supportive availability of expert assistance, personal assistance, and sometimes technical rescue by the school librarian. They valued the friendly, positive manner and the opportunity to build a learning relationship with the school librarian, where there was ongoing feedback, guidance, and personal attention. They also valued the school library as a safe place to discover ideas, where they could question the world of ideas, explore conflicting ideas (knowledge as problematic), and make accidental and planned discoveries.

The study provides opportunities for further research. In elaborating *conceptions of help*, the basis is provided for comparative and experimental research that provides opportunities to explore more richly the dynamics of helps, as well as to investigate the conception of non-helps or barriers in the provision of help. The findings provide opportunities to undertake detailed case studies about school libraries' connect-disconnect to reading literacy development and to understand more fully how school libraries affect reading achievement.

From this study emerge some challenging questions. What are the potential implications and outcomes of not engaging in the information-transformational-formational challenge of learning through the school library? What would happen to students if all the help identified were not

available to them through the provision of effective school libraries? What would happen if all the information infrastructure, resources, information technology, informational and instructional expertise of the school librarian were taken away or reduced? The answers to these questions center firmly on the provision or absence of concrete opportunities for students to learn in a rich, complex, and diverse information environment and reach higher levels of achievement. Effective school libraries provide significant opportunities for students to learn and to achieve. When effective school libraries are in place, students do learn: 13,000 students cannot be wrong.

Note

Additional information about the Student Learning Through Ohio School Libraries research study may be found at <http://www.oelna.org/studentlearning.htm>.

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

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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-