School Library Media Research
Research Journal of the American Association of School Librarians

Volume 12, 2009
ISSN: 1523-4320

Approved June 2009
www.ala.org/aasl/slr

The Impact of New York's School Libraries on Student Achievement and Motivation: Phase I

Ruth V. Small is Laura J. and L. Douglas Meredith Professor, School of Information Studies, Syracuse University, Syracuse, New York.

Jaime Snyder is a doctoral candidate, School of Information Studies, Syracuse University, Syracuse, New York.

Katie Parker is a doctoral student, School of Information Studies, Syracuse University, Syracuse, New York.

In recent years, a number of statewide research studies have been conducted to determine the impact of school library media centers and their school library media specialists (SLMSs) on student achievement. Research studies in eighteen states have clearly established the relationship between well-staffed, well-funded school libraries on student achievement test scores. This article reports the results of the first phase of the New York State School Library Impact Study, funded by the U.S. Institute of Museum and Library Services, which investigates the effect of school libraries in New York State on student achievement and extends previous statewide library impact studies, using multiple research methods, to explore (1) the influence of the SLMS on technology use, (2) the relationship between principals and their SLMSs and (3) the level of service to students with disabilities. Results are expected to provide guidance for effective school library programs and services and increase our understanding of the complex and multidimensional ways in which school libraries influence student learning.

Introduction

School library media specialists (SLMSs) do much more than simply provide learning support to students. In addition to teaching students the essential twenty-first-century skills they need to succeed, SLMSs also excite them about the *process* of learning and stimulate their curiosity through research, technology, and information problem solving.

In recent years, a number of statewide research studies have been conducted to determine the impact of school library media centers (SLMCs) and their SLMS on student achievement. These researchers have identified some possible best practices that correlate positively with and contribute to student achievement. Significant research findings have clearly established the relationship between well-staffed, well-funded school libraries with active information literacy (IL) instructional programs and statewide standardized test scores (Todd 2002).

Work done by Lance and his colleagues (e.g., Lance, Wellborn, and Hamilton-Pennell 1993; Lance, Rodney, and Hamilton-Pennell 2000), Todd and Kuhlthau (2003), and others has opened

an interesting line of inquiry. In an age when budgets for school libraries need to be expanded as access to information technology and databases continues to become more expensive, evidence of a relationship between the library, information resources, and student achievement is critical.

This article provides the results of phase 1 of a three-phase research study, funded by a National Leadership Grant from the Institute of Museum and Library Services, that establishes baseline data on the impact of New York State's school library services, programs, and resources on student achievement and motivation. This initial phase explored the perceptions of New York State's SLMSs and their principals on several factors, such as instructional services, student motivation for learning, technology integration and use, collaboration with classroom teachers, and services to students with disabilities. Findings will be useful to SLMSs and those involved in their preservice preparation.

Literature Review

Over the past two decades, a series of statewide research studies have been conducted to better understand the impact of school libraries and SLMSs on student achievement. Though the origins of this scholarly investigation reside in the research of past American Library Association (ALA) president Mary K. Gaver, who attempted to demonstrate the relationship between quality school libraries and educational gains (Gaver 1963), perhaps the most cited and prolific research team associated with this line of inquiry is Keith Curry Lance and his associates.

Lance developed a methodological approach in 1993 (revised in 2000) to examine the effect of school libraries on student academic achievement. Using student performance on standardized tests as a means of measuring student achievement, Lance successfully correlated quality school library media programs with increased school performance on standardized tests. He conducted studies in seven states, and his method has been used in another six states. Lance's statewide studies in Colorado (e.g., Lance, Wellborn, and Hamilton-Pennell 1993), Illinois (e.g., Lance, Rodney, and Hamilton-Pennell 2005), and Alaska (Lance, Hamilton-Pennell and Rodney, 2000) have provided data for comparison across schools and school districts.

Researchers can look at a variety of differences between schools and their SLMCs to determine a range of measurable effects on student performance. These studies also have provided much-needed evidence to school administrators of the positive impact of school library media programs and services on student learning, especially important during times of budget and personnel cutbacks. For example, an aggregate of the results from previous studies indicates that in ten or more of these states, a positive correlation exists between higher scores on standardized achievement tests and the size of SLMC staff, the number of hours the SLMC is open, how often students use the SLMC, the amount of materials the SLMC owns, and whether the SLMS teaches students (e.g., IL skills). In several of these state studies, a positive correlation was found between higher scores on the standardized tests and the presence of a trained SLMS, Internet access, networked computers in the SLMC and classrooms, higher SLMC expenditures per student, cooperative lesson planning between the SLMS and classroom teachers, and SLMS–led in-service for teachers.

Although each study has attempted to replicate Lance's approach to a certain degree, differences in focus exist between studies. For example, a Missouri study (Miller, Want, and Whitacre 2003) looked at the effects of a summer reading program, while an Alaska study (Lance, Rodney, and Hamilton-Pennell 2000) examined the importance of collaboration with the public library. Both

of these states found a positive correlation between these programs and student academic achievement.

Statewide studies conducted in Minnesota (Baxter and Smalley 2003) and Indiana (Callison 2004) took slightly different approaches to gain a better understanding of the relationship between the SLMC and student academic achievement. These studies compared the standards given for identifying good SLMCs to those actually existing in schools. Minnesota positively correlated the "better" SLMCs with student academic achievement. The statewide study in Indiana examined how SLMSs with ample resources and experience are better able to help teachers and improve the school as a whole. It also positively correlated these activities to student academic achievement.

In a statewide study conducted in Ohio, Todd (2006) explored how school libraries support academic achievement by asking students in thirty-nine schools with exemplary libraries (as determined by a panel of experts) to rate forty-eight statements that differentiated ways in which the library may help them. Students rated each question on a Likert-type scale that varied from "the library helped me a little" to "the library was most helpful" and "not applicable." Ratings on a third of the statements indicated that 50 percent or more of the students thought that the library was "most" or "quite" helpful. Since the statements asked students about how the library helped them do all aspects of their schoolwork, this suggests that the library is directly helping many students with a significant portion of their work. However, the cumulative results from this study are unclear because students were not offered the option of saying that the library *did not* help them, thereby positively skewing the results.

In the Ohio study, students were asked to answer a critical incident question requiring them to describe a situation in which they received help from the library. Seventy-eight percent of the students were able to respond to this question and did so positively. This cumulative result demonstrates how valuable these exemplary libraries are to students. By asking students to express ways that the SLMC has helped them with their schoolwork, the Ohio study begins to explore the causal relationship between students' use of the SLMC and their academic achievement. The study did not, however, solicit this type of information using critical incident technique from other stakeholders in the school (e.g., classroom teachers, parents), although they did use teacher surveys to gather such information.

Significant research findings of previous impact studies, conducted in eighteen states, have clearly established the relationship between well-staffed, well-funded school libraries with active IL instructional programs and statewide standardized test scores (Todd 2002). This article reports the findings of the first phase of a multiphase study to investigate the impact of school library resources, services, and programs on the achievement and motivation of students in New York State.

This Study

While school library impact studies have been completed in eighteen states at the time this study commenced, there has been no study of school libraries in one of the largest and most diverse states in the nation—New York, a state that mandates certified school library professionals at the secondary level only and does not require its certified SLMSs to have teaching credentials. Within New York State there is a unique range of size and types of schools and districts—from rural and suburban districts to small- and medium-size city districts to one of the largest urban

school districts in the nation, New York City, a city where approximately 20 percent of its school library professionals, mostly at the elementary level, are not certified.

The current study looks at some areas that have not been explored in-depth in previous studies. This study (the New York State School Library Impact Study), funded by the U.S. Institute of Museum and Library Services, extends previous statewide library impact studies by using multiple research methods to investigate the effect of school library programs, services, and resources on New York State students' achievement and motivation. Results are expected to provide guidance for effective school library programs and services and increase our understanding of the complex and multidimensional ways in which school libraries influence student learning.

Although strong evidence of the correlation between school library programs, resources, and services and student achievement has been previously established, further investigation is necessary to build on and extend previous research, particularly focusing on the roles and responsibilities of SLMSs as outlined by *Information Power: Building Partnerships for Learning* (ALA AECT 1998), the professional guidelines of the school library profession. (*Note*: This research was conducted before the publication of the 2007 American Association of School Librarians [AASL] *Standards for the 21st-Century Learner*.)

The current study also extends what is already known by exploring new and important areas. For example, the Ohio study did not focus on how the library helps students with disabilities. Although No Child Left Behind (NCLB) fails to highlight the important role played by SLMCs and SLMSs in promoting student academic achievement, it does address students with special needs, who have remained largely ignored in the research conducted by Lance (e.g., Lance, Rodney, and Hamilton-Pennell 2000) and Todd (2006).

NCLB identifies an achievement gap between students with disabilities and their peers and contends that states must be held accountable for this problem and work to close this gap by developing achievement standards that all students are expected to meet by providing appropriate accommodations for assessing students with disabilities. SLMSs have an opportunity to play an important role in solving this nationwide problem. By researching how the SLMC and the SLMS currently support special needs students in their efforts to learn, schools working toward implementing the statewide accountability system prescribed by NCLB will be able to better use these critical resources already at their disposal.

Another area of inquiry largely ignored by previous studies is motivation, specifically the level of administrative support for the library and its programs and services and the impact of those programs and services on student motivation. Research has demonstrated a significant drop in students' academic motivation from elementary school through middle school (Lepper, Corpus, and Iyengar 2005; Eccles and Midgley 1990; Harter 1981).

Looking at both SLMS motivation and student motivation helps to provide a more comprehensive look at motivational issues in school libraries. Using Deci and Ryan's self-determination theory (SDT) (e.g., 2000**;** 1991; 1985), which focuses on the degree to which a particular context is autonomy supportive, and Small and Arnone's Motivation Overlay to Information Literacy Skills Models (2000), this study focused on the librarians' and principals'

perceptions of autonomy supportiveness for the library and librarian and the degree to which SLMSs use the motivational teaching strategies suggested by the Motivation Overlay.

SDT proposes that behavior is based on the degree to which the individual feels his or her context either fosters *autonomy* or is *controlling*. Deci and Ryan state that autonomous behaviors are intrinsic and come from one's integrated sense of self, while controlled behaviors come from a perceived external locus and are performed to satisfy some outside pressure, such as a reward or punishment. SDT suggests that the interpersonal context in which the individual functions influences the extent to which individuals are autonomous as opposed to controlled (Black and Deci 2000). In the library context, an SLMS who perceives his or her environment to be autonomy supportive is more likely to perform more effectively than one who perceives his environment as controlling. This study looked at both SLMS and principal perceptions of the library setting as either autonomous or controlling.

Small and Arnone's Motivation Overlay to Information Literacy Skills Models, an overlay to existing IL models, is based on expectancy-value theory (EVT). EVT proposes that an individual will demonstrate effort if he or she perceives the task as *valuable* and if he or she perceives an *expectancy for success* at that task. According to Small and Arnone, instructional strategies that help to foster those perceptions are considered motivational in nature. This study examined the ways in which the use of motivational strategies by the SLMS affected student achievement.

In summary, while previous studies have focused almost exclusively on the SLMC's impact on student achievement as a whole—certainly a basic and critical focus—there is a need to look beyond achievement test scores to investigate additional factors such as (1) autonomy supportiveness by school administrators of library programs and services; (2) services, programs, and resources available to students with disabilities; and (3) how the library supports technology use. Phase 1 of this research used survey research methods to explore all of these areas of inquiry.

Research Questions

The following research questions were explored in phase 1:

- Do school library programs, services, and resources have an impact on the learning achievement of New York State public school students?
- Do school library services and programs affect New York State public school students' motivation for the learning?
- Do SLMSs in New York State public schools perceive their school administrators as autonomy supportive?
- Do school libraries and SLMSs in New York State provide adequate services and resources to students with disabilities?
- In what ways do SLMSs influence the use of technology by both students and teachers?

Research Method

A general survey instrument was developed for phase 1 of the study. The survey was implemented online using SurveyMonkey, a commercial Web-based survey software application. Two versions of this instrument were developed: one for SLMSs and one for principals in New York State public schools. Most of the items were similar, with only slight wording changes (e.g., changing "I" in the SLMS survey to "my SLMS" in the principal survey).

The survey consisted of eight subscales. Sixty-five multiple choice questions were included in the SLMS version of the instrument. The instrument included fifty-five Likert-scale questions, including six items from the short form of Deci and Ryan's Work Climate Questionnaire (WCQ) (www.psych.rochester.edu/SDT/measures/paswork.php). The WCQ, a validated instrument applied in a broad range of contexts, was slightly adapted to the school library environment for this study to assess perceptions of the level of administrative support. An additional ten questions were asked about the relative frequency of certain activities performed by the SLMS. To obtain general information about our sample, we asked librarians eleven questions about themselves followed by fourteen questions about the school library media program. Principals were asked just six general questions about themselves. Examples of items from each subscale for SLMSs and for principals appear in figure 1. Concluding the survey, an open-ended comment field provided respondents with an opportunity to share additional information not covered by previous items.

Figure 1. Examples of Items from the Eight Subscales on the Library Media Specialist and Principal Surveys

Learning environment	SLMS	Our SLMC is a warm and friendly place where all students like to spend time.
	Principal	Our SLMC is a warm and friendly place where all students like to spend time.
Diversity of collection	SLMS	I make a point of selecting materials for the school's library collection that represent different points of view.
	Principal	Our SLMS(s) makes a point of selecting materials for the school's library collection that represent different points of view.
Student motivation to learn	SLMS	Our school's library media program encourages students to discover new interests.
	Principal	Our school's library media program encourages students to discover new interests.
Work climate scale	SLMS	My principal tries to understand how I see things before suggesting a new way to do things.
	Principal	I try to understand how my SLMS sees things before suggesting a new way to do things.
Leadership within school community	SLMS	I regularly provide leadership in my school in the use of technology for teaching and learning.
	Principal	Our SLMS(s) regularly provides leadership in our school in the use of technology for teaching and learning.

Information literacy	SLMS	I always provide students with IL/research skills instruction that is integrated with the curriculum.
	Principal	Our SLMS(s) always provides students with IL/research skills instruction that is integrated with the curriculum.
Collaboration within school community	SLMS	I regularly collaborate with teachers to plan and IL/research skills in the context of classroom curriculum.
	Principal	Our SLMS(s) regularly collaborates with teachers to plan and implement IL/research skills in the context of classroom curriculum.
Guidance	SLMS	I provide all students with guidance in the selection of reading materials.
	Principal	Our SLMS(s) provides all students with guidance in the selection of reading materials.

The Likert-scale items included an option for "I don't know," which was treated as a zero score for that item. Other possible responses were scored according to a five-point scale, five being the highest; therefore scale averages (discussed below) had a maximum score of 5.0. Frequency items also were scored using a five-point scale. No option was provided for "I don't know" (see figure 2).

Figure 2. Possible Responses to Likert-type and Frequency Multiple-Choice Items

Possible responses to Likert items:	**Possible responses to frequency items:**
1. I don't know 2. Strongly disagree 3. Disagree 4. Neither agree nor disagree 5. Agree 6. Strongly agree	1. Never 2. Rarely 3. Sometimes 4. Often 5. All the time

Pilot Study

A pretest group was made up of eleven practitioners, certified SLMSs from central New York State participating in the Onondaga-Madison-Cortland Board of Cooperative Educational Services' (BOCES) Partners in Achievement: Libraries and Students (PALS) project. Many suggestions regarding clarity of wording and extraneous or redundant questions were incorporated using feedback from pretesting.

A pilot study focused on testing the online survey software (SurveyMonkey) and establishing the reliability and validity of scales within the instrument. Pilot-study participants were non–New York State SLMSs, so as not to contaminate the potential pool of New York State respondents. Recruitment took place via Syracuse University alumni contacts and the LM_NET SLMS electronic discussion list. Sixty-five participants began the survey, resulting in fifty-seven usable

responses (those whose respondents completed at least the first two sections of the survey). Factor and reliability analysis was conducted using SPSS. Questions specifically referring to New York State programs and standards were excluded from this analysis as they were inapplicable to out-of-state respondents.

No significant usability problems related to the survey software were reported. Users reported only slight confusion about some wording and had questions about appropriateness of answer scales provided (Likert vs. frequency). An exploratory factor analysis was performed on the responses. Some common problems were revealed through this analysis, as well as reliability analysis of identified factors. Ceiling and floor effects were noted on some questions, and slight revisions were made on the basis of this feedback. Additionally, items loading on multiple factors were revised to create more precise scale measurements.

Based on the final set of responses from SLMSs and principals, the general survey instrument provided valid and reliable measurements for eight scales (see table 1). Unless noted, all measures are constructed from groups of Likert-scale questions.

Table 1. Validation of Scales on the General Survey for Library Media Specialists and Principals

Scale name	Description of measurement	**Reliability** (Cronbach's Alpha)	
		LMS	**Principal**
Learning environment 4 items (1–4)	Measurement of the school librarian or principal's perception of the SLMC as a place with a positive atmosphere that encourages learning.	0.802	0.899
Diversity of collection 3 items (8–10)	Measurement of the importance school librarians place on selecting materials that support diversity.	0.737	0.768
Student motivation to learn 9 items (20–28)	Measurement of school librarian or principal's perception of the ability of the school library media program to motivate students to learn	0.910	0.934
Work climate scale (WCS) **(Deci and Ryan 2008)** 7 items (29–35)	Measurement of the SLMS or principal's perception of the level of supportiveness offered by his or her school's administration	0.950	0.885
Leadership within school community 7 items (36–42)	Measurement of the SLMS's perception of his or her leadership presence within the school community.	0.843	0.913
Information literacy 5 items (43–45, 54–55)	Measurement of the importance the SLMS places on teaching IL skills to students	0.828	0.835
Collaboration within school community 3 items (46–48)	Measurement of the importance the SLMS places on collaborating with classroom teachers.	0.748	0.794
Guidance	Measurement of SLMS or principal's	0.765	0.874

(Frequency scale) 6 items (56–61)	perception of the frequency that the SLMS provides guidance to the school community in the selection of reading materials and the use of print and digital resources.		

Sampling

The overall goal of the general survey was to elicit responses from every public school library media specialist and principal in the state of New York. A master list of schools was created from a public database made available from the New York State Department of Education (NYSED 2008a) and downloaded in August 2006 at the beginning of the research project. Based on these records, approximately 4,200 schools were identified as potential respondents. Private schools (including charter and religion-based schools) and schools with either no library or with a library but no librarian were excluded from our sample. While the total number of public schools in the state is not static over time (schools have surely been opened and closed during the course of the two years data were collected), this list was used to define 100 percent of our target sample as 4,293 schools.

Recruitment was conducted via e-mail solicitation, endorsements through professional organizations, and an open call on the Center for Digital Literacy website. Flyers were distributed at professional conferences and events, and BOCES system directors provided access to SLMS list contact information. The School Administrators Association of New York State also provided support in the form of an endorsement from the executive director, administrator contact information for members, and an announcement of the study in their newsletter.

Valid general survey responses from SLMSs totaled 1,612 (38.5 percent), including 31 percent of New York City's public school librarians, a very respectable response rate. More importantly, the data are approximately representative of New York State's needs/resource capacity (N/RC) categorizations (NYSED, 2008b); see table 2. This categorization scheme refers to the grouping of school districts across the state according to poverty, the financial resources available to the district, enrollment, and land area. Data were received from SLMSs from all sixty-two counties in New York State; all but two counties had a response rate of 20 percent or higher.

Table 2. Percentage of Schools by New York State's Needs/Resource Categories (N/RC) Compared with Percentage of Survey Respondents
(www.emsc.nysed.gov/repcrd2005/information/similar-schools/guide.shtml)

	New York State raw*	New York State percentage*	Sample raw	Sample percentage
1. New York City	1225	28.6	402	24.9
2. Large city—Buffalo, Rochester, Syracuse, Yonkers	206	4.8	45	2.8
3. High N/RC urban or suburban	357	8.3	122	7.6
4. High N/RC rural	414	9.7	194	12.0
5. Average N/RC	1,447	33.8	646	40.1
6. Low N/RC	628	14.7	203	12.6

7. Charter schools	n/a	n/a	n/a	n/a

* New York State Education Department Basic Education Data System, Public School Data Form, Fall 2004 (does not include "special" [ungraded] schools). New York City total schools 1,265; rest of state total schools 2,993; total state 4,258.

In addition, the sample represents SLMSs from elementary (including primary and intermediate) and secondary (both middle and high) schools, as well as others such as K–12 schools, statewide (see table 3). A majority of those responding were New York State certified (see table 4).

Table 3. Percentage of General Survey SLMS Respondents by Building Level (www.emsc.nysed.gov/repcrd2004/information/similar-schools/guide.shtml)

Grade level	New York State raw*	New York State percentage*	Sample raw	Sample percentage
Elementary	2,496	57.8	811	49.2
Secondary	1,530	35.5	702	42.5
Other K–12	75	1.7	131	7.9

* New York State Education Department Basic Education Data System, Public School Data Form, Fall 2004 (does not include "special" [ungraded] schools). New York City total schools 1,265; rest of state total schools 2,993; total state 4,258.

Table 4. Percentage of General Survey SLMS Respondents by Certification

SLMS certification	New York State raw*	New York State percentage*	Sample raw	Sample percentage
Not certified	854	20.1	198	12.3
Certified	3,404	79.9	1,414	87.7

* New York State Education Department Basic Education Data System, Public School Data Form, Fall 2004 (does not include "special" [ungraded] schools). New York City total schools 1,265; rest of state total schools 2,993; total state 4,258.

Recruitment of principals was conducted through the New York State administrators' organization and by asking LMS respondents to encourage their principals to participate in the principal survey. A total of 562 principals responded, representing 13 percent of the public school principals in New York State and all of the state's Needs-to-Resource Capacity (N/RC) categorizations. Respondents included 46 percent male (413) and 54 percent female (419) principals. All respondents had advanced degrees; the majority, 91 percent (765), had master's degrees while 9 percent (65) had doctorates. Approximately 60 percent (377) had ten or fewer years of experience as an administrator.

Results

New York State does not currently mandate certified SLMSs at the elementary level. Often these positions are filled with untrained people (e.g., cluster teachers, library aides, and volunteers). Therefore an important additional research question would be "does having a certified SLMS at the elementary level make a difference in student learning?" The findings discussed below provide empirical evidence that certified librarians contribute to student learning in a number of ways, all of which contribute to a richer learning environment.

Research Question 1: Do school library programs, services and resources impact the learning achievement of New York State public school students?

***Finding**: After controlling for the level of resources available to schools, the study found that students at schools with certified SLMSs have, on average, higher fourth-grade English Language Arts (ELA) scores than students at schools without a certified SLMS.*

A one-way analysis of covariance was conducted, controlling for the N/RC category of the school. The independent variable was fourth-grade ELA achievement scores. The dependent variable was New York State certification (including two levels certified and noncertified), and the covariant was the NR/C of the school. The analysis of covariance (ANCOVA) was significant: $F(1, 784) = 15.854$, $p < 0.05$, partial eta-squared = 0.020. Students at schools with certified SLMSs have, on average, higher fourth-grade ELA scores than students at schools without a certified SLMS. Controlling for NR/C, the average score for schools with certified librarians is 663.5, with a standard deviation of 0.6, compared to an average score of 661.6, with a standard deviation of 2.2, for schools with uncertified librarians (see table 5 and table 6).

Table 5. Average Fourth-Grade ELA Scores before Controlling for N/RC

SLMS certification	Mean	Std. deviation	N
NYS certified	666.2914	17.97176	638
Not NYS certified	657.4273	15.58717	150
Total	664.6041	17.87590	788

Table 6. Average Fourth-Grade ELA Scores after Controlling for N/RC

SLMS certification	Mean lower bound	Std. error upper bound	95% confidence interval	
			Lower bound	Upper bound
NYS certified	663.454	.637	662.204	664.704
Not NYS certified	661.580	2.215	657.232	665.927

Our data also demonstrate that low-needs schools are more likely to have a certified librarian managing the SLMC. There was a significant negative correlation (Pearson correlation coefficient = 0.0.451, $p < 0.00$) between school-needs level and SLMS certification; lower-needs schools (N/RC of 5 and 6) are more likely to have a certified librarian than high-needs schools (N/RC of 1–4). There also is a significant correlation between the needs level of a school and fourth-grade ELA standardized test scores (Pearson Correlation coefficient = 0.490, $p < 0.00$). These findings are not surprising, but they do help to establish the representative quality of our dataset. We know that needs level predicts both SLMS certification and achievement scores, but even when we control for the N/RC of schools, fourth-grade ELA standardized test scores (ELA-4) are still significantly higher in schools with certified librarians (see ANCOVA results above).

***Finding**: Certified SLMSs are more likely to make a point of selecting materials for their library collection that represent different points of view.*

A two-way contingency table analysis was conducted to evaluate whether certified librarians are more likely to make a point of selecting materials for the school's library collection that

represent different points of view. The two variables were certification with two levels (certified and not certified) and Likert-scale responses with five levels (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). Certification and selection of materials that represent different points of view were significantly related: Pearson Chi-Square (4, N = 1,606) = 17.895, $p < 0.05$, Cramér's V = .106. Notably, 62 percent of certified librarians strongly agreed that they make a point of selecting material that represents different points of view, as opposed to 47.2 percent of uncertified librarians.

Finding: *Certified SLMSs are more likely to make a point of selecting materials for their library collection that support the general curriculum.*

A two-way contingency table analysis was conducted to evaluate whether certified librarians are more likely to make a point of selecting materials for the school's library collection that support the general curriculum. The two variables were certification with two levels (certified and not certified), and Likert-scale responses with five levels (strongly disagree, disagree, neither agree nor disagree, agree, strongly agree). Certification and selection of materials that represent different points of view were significantly related: Pearson Chi-Square (3, N = 1599) = 39.304, $p < 0.00$, Cramér's V = .157. Notably, 86.4 percent of certified librarians strongly agreed that they make a point of selecting material that supports the general curriculum, as opposed to 69.5 percent of uncertified librarians.

Research Question 2: Do school library services and programs affect New York State public school students' motivation for learning?

Another line of inquiry, largely ignored by previous studies, involves motivation. In this area we studied two types of motivation: the level of administrative support for school library programs and services and the impact of those programs and services on student motivation, neither of which has been explored in previous state studies.

Using a subscale derived from the Motivation Overlay, we explored the degree to which SLMSs use the motivational teaching strategies suggested by the Motivation Overlay.

Finding: *The SLMS's perception of the program's ability to motivate students to learn is significantly correlated with the importance he or she places on teaching basic information literacy skills.*

A major emphasis for this study was on the SLMS's impact on student motivation to learn important twenty-first-century skills. After controlling for N/RC, the correlation coefficient for the motivation scale and the information literacy scale was 0.609, $p < 0.05$, N = 1,583. This indicates that the SLMSs' perception of the ability of the school library media program to motivate students to learn is strongly correlated with the importance the SLMS places on teaching basic IL skills. The more important the SLMS believes these skills to be, the more likely the SLMC program will motivate students to learn.

Finding: *After controlling for N/RC, elementary, secondary, and K–12 type schools have significantly different motivation scores.*

A one-way analysis of covariance was conducted, controlling for the needs category of the school. The independent variable was the score from the motivation scale measuring the SLMS's perception of the ability of the SLMC program to motivate students to learn. The dependent variable grade level included three levels (elementary, secondary, and K–12), and the covariant was the N/RC of the school. The ANCOVA was significant: $F(2, 1551) = 39.07$, $p < 0.00$, partial eta-squared = 0.048. Results indicate significantly different motivation scores between elementary, secondary, and K–12 type schools, with the means of each group being 4.53 for elementary schools, 4.29 for secondary schools, and 4.43 for K–12 schools. Follow-up testing showed that elementary scores are significantly higher than both secondary and K–12 schools. Elementary SLMSs use significantly more motivation strategies than either secondary or K–12 SLMSs.

Research Question 3: Do SLMSs in New York State public schools perceive their school administrators as autonomy supportive?

Using the WCQ, based on a theoretical foundation of SDT (e.g., Deci and Ryan 2000), which looks at the degree to which a context is autonomy supportive, we explored the differences between SLMSs and principal perceptions of autonomy supportiveness for SLMC programs.

Finding: *The mean work climate score for principals was significantly higher than the mean work climate score for SLMSs.*

The short form (six items) of Deci and Ryan's WCQ was used to determine how supportive SLMSs thought their principals are (e.g., "I feel that my principal provides me with choices and options." "My principal conveys confidence in my ability to do well in my job.") and to determine how autonomy-supportive principals thought they were toward their SLMS (e.g., "I provide my librarian with choices and options." "I convey confidence in my librarian to do well in his/her job").

An independent-samples t-test was conducted to evaluate the hypothesis that there is a difference between SLMS and principal perceptions of support for the library media program provided by school administration. Deci and Ryan's Work Climate Scale, one of their Perceived Autonomy Support Climate Questionnaires (part of a family of questionnaires that assesses the perceptions of individuals about the degree to which a particular social context is autonomy supportive versus controlling), was used as the basis for the comparison. While there was no significant difference between SLMS and principal perceptions in all other subscales, the test for work climate was significant: $t (1773.663) = 16.945$, $p < 0.000$, with principal scores ($M = 4.42$, $SD = 0.55$) significantly higher than SLMS scores ($M = 3.84$, $SD = 1.00$); see table 7. Principals believe their support of their SLMS is significantly greater than the SLMS's perceptions of that support. (While the SLMS and principal perceptions of SLMS–classroom teacher collaboration were not significantly different from each other, the scores on that subscale were the lowest of all subscales for both groups.)

Table 7. A Comparison of Principal and SLMS Means on Subscales

Scale		N	Mean	SD	Std. error mean
Atmosphere	SLMS	1589	4.3885	.61898	.01553
	Principals	562	4.2616	.86337	.03642
Collection	SLMS	1648	4.6704	.42501	.01047
	Principals	562	4.5074	.67640	.02853
Motivation	SLMS	1596	4.4174	.51457	.01288
	Principals	561	4.2422	.72578	.03064
Work climate	SLMS	1591	3.8431	1.00282	.02514
	Principals	561	4.4242***	.55252	.02333
Leadership	SLMS	1643	4.0311	.62968	.01553
	Principals	556	3.9320	.93456	.03963
Information literacy	SLMS	1634	4.1972	.60684	.01501
	Principals	552	4.0966	.82783	.03523
Collaboration	SLMS	1631	3.3475	.86786	.02149
	Principals	548	3.5338	1.04477	.04463

*** p > .0001

Finding: *Out of the total SLMSs and principals providing feedback in the open-ended comment field, a greater percentage of SLMSs mentioned both positive and negative principal support for the SLMC than did the principals.*

A total of 423 SLMSs and 210 principals provided feedback via an open-ended comment option at the end of the survey. The feedback was analyzed deductively by two research associates using ATLAS.ti, a qualitative data analysis software application, in an effort to reveal relevant commonalities in the text data. A codebook was derived from the general survey instrument. A total of 12 code families (10 related to the Likert and frequency items described above, 2 related to demographic items) and 93 individual codes were included in the codebook.

The code "Principal Supports Positive" (belonging to the code family "Work Climate") was used for comments provided by both SLMSs and principals. Comments assigned this code met a codebook definition of "principal supports, shows confidence in, and demonstrates an understanding for librarian and SLMC." While 24 (5.67 percent) of the SLMSs provided comments illustrating positive principal support, only 7 (3.33 percent) of principals provided comments meeting this codebook definition (see table 8).

Table 8. Percentage of Positive Principal Support Comments by General Survey Respondent Type

General survey respondent type	Positive principal support comments raw scores	Positive principal support comments percentages	Total comments
Principal	7	3.33	210

SLMS	24	5.67	423

The code "Principal Supports Negative" (also belonging to the code family "Work Climate") was defined as "principal does not support, show confidence in, or demonstrate an understanding for librarian and SLMC." While 35 (8.27 percent) of the SLMSs provided comments illustrating negative principal support, only 5 (2.38 percent) of the principals provided comments meeting this codebook definition (see table 9).

Table 9. Percentage of Negative Principal Support Comments by General Survey Respondent Type

General survey respondent type	Negative principal support comments raw	Negative principal support comments percentages	Total comments
Principal	5	2.38	210
SLMS	35	8.27	423

Research Question 4: Do school libraries and SLMSs in New York State provide adequate services and resources to students with disabilities?

The current study also extends our knowledge by understanding the relationship between school libraries and students with disabilities. Despite its failure to highlight the important role played by SLMCs and SLMSs in promoting student academic achievement, NCLB does address students with special needs, who have remained largely ignored in the research conducted by Lance et al., Todd and Kuhlthau, and others. NCLB identifies an achievement gap between students with disabilities and their peers and contends that states must be held accountable for this problem and work to close this gap by developing achievement standards that all students are expected to meet by providing appropriate accommodations for assessing students with disabilities.

SLMSs have an opportunity to play an important role in solving this nationwide problem. By researching how the SLMCs and the SLMSs currently support students with disabilities in their efforts to learn, schools working toward implementing the statewide accountability system prescribed by NCLB will be better able to make use of these critical resources already at their disposal.

Five items on the general survey related to ways in which the SLMC and SLMS meet the needs of students with special needs. Forty-five respondents (3 percent) reported having special education training. While SLMSs largely report addressing individual student learning abilities, needs, and styles; Individualized Education Programs (IEPs); and selecting materials that feature individuals with disabilities when planning, implementing, and modifying library programs and services, they also indicate less attention paid to adequate physical accessibility and access to assistive technologies for students with disabilities (see table 10).

Table 10. Descriptive Statistics for Survey Items Related to Services to Students with Disabilities
(1 = low; 5 = high)

Item	N	Mean	SD	Variance
15. I make a point of selecting materials for our school's library collection that feature individuals with disabilities.	1,636	3.94	.803	.644
16. Our SLMC includes adequate assistive technologies (e.g., screen readers, speech recognition systems, etc.) for helping students with disabilities to learn.	1,619	2.21	.915	.838
17. Our SLMC has appropriate fixtures and facilities to make it physically accessible to students with disabilities.	1,620	3.40	1.180	1.394
18. Our school library media program addresses individual student learning abilities, needs, and styles when planning, implementing, and modifying instruction.	1,631	4.05	.761	.579
19. Our school library media program meets the learning needs of students as specified by Individualized Education Programs (IEPs).	1,562	3.96	.811	.658

Research Question 5: In what ways do SLMSs influence the use of technology by both students and teachers?

Descriptive statistics illustrate how SLMSs have an important role to play regarding the use of technology to support teaching and learning in their schools. Results of the general survey revealed the following:

- 74 percent (1193) of SLMS respondents provide guidance to students in the use of digital resources *at least once a week.*
- 57 percent (919) of SLMS respondents assist students in using information in a variety of media formats (books, CDs, DVDs, etc.) *at least once a week.*
- 65 percent (1048) of SLMS respondents assist staff in using information in a variety of media formats (books, CDs, DVDs, etc) *at least once a week.*

Two additional questions revealed the following:

- 91 percent (1167) of SLMS respondents report having an automated circulation system.
- 46 percent (743) of SLMS respondents provide students with access to the library catalog from home.

In summary, overall results of phase 1 of the New York State School Library Impact Study indicate the following:

- Elementary students in schools with certified SLMSs are more likely to have higher ELA achievement scores than those in schools with noncertified SLMSs.
- Certified SLMSs are more likely than noncertified SLMSs to make a point of selecting materials for their library collections that represent different points of view and that support the general curriculum.
- The SLMSs' perception of the SLMC program's ability to motivate students to learn is significantly correlated with the importance he or she places on teaching IL skills.

- After controlling for N/RC, elementary SLMSs use more motivation strategies in their teaching than SLMSs in either secondary or K–12 libraries.
- Principals have higher perceptions of their autonomy supportiveness for the SLMS than SLMSs' do.
- SLMSs report lower levels of technology and physical accessibility to resources for students with disabilities than other services and resources.
- The SLMC plays an important role in many aspects of technology use in their schools.

Qualitative Data

The general survey concluded with an optional comment box. A deductive content analysis was performed by two independent coders, applying a preestablished coding scheme based on survey items to the SLMS and principal comments on the general survey. Any differences in coding were resolved for 100 percent coding agreement.

Deductive coding was conducted using ATLAS.ti qualitative analysis software to determine the applicability of the coding scheme to the given data. The coding scheme was developed directly from the items on the general survey instrument and included twelve code families.

SLMS Comments

A list of the codes used to analyze the SLMS comments appears in table 11. Ten codes originally listed in the coding scheme, but not used during the coding because of failure to identify any comments fitting those codes, were subsequently removed. Table 11 provides a list of the salient codes and the number of comments demonstrating each code. The most salient codes are discussed below with quotations from the data.

Table 11. Codes of SLMSs in Survey Open-Ended Question

Code	#	Code	#	Code	#
Grades served by SLMC	86	Staff media use: Negative	17	Committee leadership: Positive	5
Other staff in SLMC	69	Years as SLMS	17	NYS standards: Positive	4
"As needed" student visits	63	Environmental motivation: Negative	17	Literacy and motivation: Negative	3
Value perceptions: Negative	60	SLMS education	17	Internet access in SLMC	3
SLMS/Teacher collaboration: Positive	53	Leadership: Positive	16	External access: Negative	3
Student instruction: Positive	42	Outreach: Positive	15	Attention and motivation: Positive	3
Work status	41	Selection policy: Negative	15	Leadership: Negative	3
Principal support: Negative	35	Noncertified SLMS	14	Satisfaction and motivation: Positive	3
"As Needed" and regular student visits	31	Staff media use: Positive	13	Confidence and motivation: Positive	2
Frequency of class visits	30	Student media use:	13	Advocacy: Negative	2

		Negative			
Literacy and motivation: Positive	29	Value perceptions: Positive	12	Attention and motivation: Negative	2
Class visits without teacher	29	Relevance and motivation: Negative	11	Censorship: Negative	2
Time at current job	29	SLMS other areas of certification	10	Individual needs addressed: Negative	2
Selection policy: Positive	28	NYS certification	10	Years certified	2
Advocacy: Positive	27	SLMC seating capacity	9	Online catalog	2
Teacher activity during class visits	25	External access: Positive	9	SLMS ethnicity	2
Student media use: Positive	24	Lack of automation	9	Confidence and motivation: Negative	1
Principal support: Positive	24	Automation	8	Professional participation: Negative	1
Class visits with teachers	22	Student access of catalog from home	8	Setting goals: Negative	1
Environmental motivation	22	Individual needs addressed: Positive	8	SLMS gender	1
Number of computers in SLMC	21	SLMC centralized	6	Committee leadership: Negative	1
Open beyond school hours	20	Professional position	6	Satisfaction and motivation: Negative	1
Students do not visit SLMC	19	Professional participation: Positive	6	Evaluation and improvement: Negative	1
Setting goals: Positive	18	SLMC decentralized	6	Physical accessibility: Negative	1
Student instruction: Negative	18	Outreach: Negative	5	Filters: Positive	1
Relevance and motivation: Positive	18	Evaluation and improvement: Positive	5	Physical accessibility: Positive	1
Perceived effectiveness: Negative	18	Perceived effectiveness: Positive	5		

As indicated by table 11, clarification of demographic information about the SLMC (e.g., grades served, staffing or lack thereof) represented the most commonly discussed codes by respondents. Data also reflect that "grade levels served by the SLMC" was the most reported theme among respondents. While some of the SLMSs simply appear to convey what they perceive to be a unique SLMC, others seem to relate all of the issues they experience to the age of their patrons. Some quotes from the comments exemplify this:

- "We are an ungraded special education high school."

- "Although our school was designed for grades 3–4 we now house the Alternative Learning Program (grades 7–11) in the trailers on our grounds. I also instruct those same students every day for forty-five minutes."
- "It is only kindergarten and first grade so many of the questions don't really apply."

In addition to clarifying the grades of those served, respondents often mentioned other staff members in the SLMC. For some, these comments reflected gratitude for the additional assistance available. For others, these comments indicated instead a desire for additional assistance and a feeling of being overwhelmed. Some quotes from the comments exemplify this:

- "Because of my full-time aide, my library is busy and active *all* day long."
- "Biggest problem—lack of personnel to perform clerical functions so that I can execute professional functions and programs."
- "The lack of a clerical assistant makes the job almost impossible."

As can be seen from the data in table 11, another common thread of SLMS comments relates to school library scheduling, specifically the frequency of "as-needed" visits or flexible scheduling, regular visits or fixed scheduling, or any combination of the two. Some quotes from the comments exemplify this:

- "My high school students come on an as-needed basis."
- "I see the fixed classes once a week for forty minutes."
- "K–4 come on a fixed schedule, one forty-minute period in a six-day rotating schedule. Students in grades 5–12 come when teachers schedule a time to come to the SLMC."
- "I meet with the fourth-grade classes other than (in addition to) their regularly scheduled library time to do research integrated with the curriculum."

Also related to SLMC scheduling, respondents frequently discussed a perceived lack of value of the school library. Respondents specifically cited instances when the SLMC or the SLMS was used for nonlibrary purposes or activities to emphasize this perceived lack of value. Some quotes from the comments exemplify this:

- "Apart from scheduled testing, the library is often used for workshops, meetings, and training, and during these times the library is closed."
- "There is no space, the library is used as a 'study hall' to accommodate the overflow of students from the cafeteria."
- "Also the principal uses the SLMC for far too many meetings either as a show-place or because the vendors provide food."
- "I am given open-access time, but it often is filled with me covering a class if a teacher is absent and a substitute is not available."

Another common thread of the SLMS comments related to SLMC scheduling involves the presence or absence of the teacher during class visits to the SLMC. The code "Class Visits Do Not Include Teachers" appear somewhat more frequently (29) than "Class Visits Do Include Teachers" (22). Some quotes from the comments exemplify this:

- "Teachers do not plan with me, but simply drop off their classes and go. I do not feel that there is a connection between the classroom and library."
- "Teachers are supposed to stay during library but often leave or do their own work away from the students."
- "Teachers resist planning together and almost always ask, 'You don't really need me to stay, do you?'"

- "Teachers always participate in research activities when I am working with the whole class.

While there were many perceptions (both positive and negative) of a number of school library issues, the issue perceived most frequently in both a positive and negative light was collaboration between the SLMS and classroom teachers. The code "Teacher/Librarian Collaboration—Positive" (53) was used somewhat more frequently than "Teacher/Librarian Collaboration—Negative" (44). (Principals saw this interaction more as positive [29] than as negative [9].) These comments were often set in the context of student instruction (often with an undertone of frustration):

- "I collaborate often with teachers to make library time productive."
- "Teachers are interested in collaborating, but never have any time."
- "Information literacy skills are taught to students but are disconnected from real learning due to lack of collaboration."
- "The state testing has put a damper on SLMC use for resource-based instructional activities. Teachers view time spent browsing, scanning for topical info, taking notes, learning how to sort out what info is valuable to the task at hand and what is not as a *waste of valuable time* which could be better used teaching to the test. The children's natural curiosity and sense of wonder is disappearing. Teachers are less likely to collaborate with me, do not see the value in learning how to learn, won't waste time using the databases tailor-made to suit their instructional purposes, but think it's fine to let kids flounder around on the Internet. I am trying to sell information literacy. I have been preaching nonfiction, expository reading and writing skills for the last 5–6 years. Now with a tremendous emphasis on literacy coming down from the district and the push to read and write in the content areas, maybe finally we can partner up for some exciting projects that are both educational and fun."

The support of the principal was also a frequent topic of SLMS comments, with "Principal Supports—Negative" (35) compared to "Principal Supports—Positive" (24). This seems to reinforce the results of the WCQ in which SLMS indicated a lack of strong support from their school administrator. Some examples of both negative and positive comments about their school administrators are the following:

- "Principals *must* learn the value of a fully functioning library and how the teaching of a library curriculum can boost students' abilities in all curriculum areas. One period a day of open access is *totally insufficient* for schools which service grades K–5."
- "I have a principal that decreased the area of the library by half in the last year. I receive *no* money except what the state allocates!"
- "I feel administration in the district clearly does not understand the importance of library skills in the school setting. I currently had to lose half my library to Special Services, which entails parents, older students, and teachers outside the elementary school walking through the library. This is always during instruction time."
- "My school district's administration is very supportive of libraries."
- "I feel my library is an exception because my principal is very supportive and because we received a large improvement grant from the Manhattan Borough President's office."
- "I have an unusual amount of support from my principal and great support from the PTA . . . the library is perhaps the most popular destination (except the school yard at recess) in the school."

Principal Comments

It doesn't take long for most school administrators to realize that the quality of a school library, like a classroom, is only as good as the educational professional within it (Small 2008), and, as indicated by the above SLMS comments, the principal's support (or lack thereof) of the SLMC and the SLMS is critical to the success (or failure) of the library media programs and services. Table 12 lists the categories and frequencies of principal responses to the open-ended question.

Table 12. Codes of Principals in Survey Open-Ended Question

Code	#	Code	#	Code	#
Value perceptions: Positive	96	Satisfaction and motivation: Positive	11	Advocacy: Negative	3
Student instruction: Positive	35	Professional participation: Positive	10	Perceived effectiveness: Negative	3
Grades served by SLMC	34	Individual needs addressed: Positive	9	Number of computers in SLMC	2
Motivating environment: Positive	31	SLMS/teacher collaboration: Negative	9	Confidence and motivation: Positive	2
Setting goals: Positive	31	Student instruction: Negative	8	Literacy and motivation: Negative	2
SLMS/teacher collaboration: Positive	29	SLMS education	8	Outreach: Negative	2
Student media use: Positive	29	External access: Positive	7	NYS certification	2
Leadership: Positive	28	"As needed" student visits	7	Professional position (SLMS)	2
Staff media use: Positive	27	Committee leadership: Positive	7	NYS standards: Positive	2
Literacy and motivation: Positive	22	Regular student visits	7	Teacher activity in SLMC	2
Other staff in SLMC	21	Principal support: Positive	7	Automated circulation	1
Selection policy: Positive	19	Staff media use: Negative	6	Relevance and motivation: Negative	1
Attention and motivation: Positive	16	Value perceptions: Negative	6	Attention and motivation: Negative	1
Advocacy: Positive	16	Evaluation and improvement: Positive	6	Class visits with teacher	1
Outreach: Positive	15	Leadership: Negative	5	External access: Negative	1
Relevance and motivation: Positive	15	Principal support: Negative	5	Number of years as SLMS	1
Selection policy: Negative	14	Student media use: Negative	5	Satisfaction and motivation: Negative	1
SLMC decentralized	12	Frequency of class visits	5	Students do not visit SLMC	1
Perceived effectiveness:	12	SLMS years at current job	4	Individual needs addressed:	1

Positive				Negative	
Motivating environment: Negative	11	Setting goals: Negative	3	SLMS other areas of certifications	1

As indicated by table 12, principals' perceptions of the SLMC, the school library media program, and particularly the SLMS were overwhelmingly positive and the most commonly discussed topics by respondents. Some quotes from the comments exemplify this:

- "I believe we have an excellent library media center."
- "We are a very current, flexible-schedule modeled library program. We have grade-level teachers that understand the importance to acquire and integrate knowledge using the librarian."
- "Our media specialist is a leader in our school integrating technology into the curriculum. She is able to demonstrate use as an integral learning mechanism rather than just a teaching support tool. She is helping move toward twenty-first-century teaching and learning."
- "The SLMS in my school has done a simply outstanding job of extending library and media into each and every classroom in our school. She is totally committed to the program and shares my vision of building the programs of our school around the SLMC."
- "I have a fantastic library media specialist. She is very involved in learning new things and works with colleagues in our area not just our building. She is always searching for ideas to use which will inspire a love of reading in our kids who are in grades K–2. I feel that the library is the center of our program and each year put a large share of our building resources into buying new items for our library."

In addition to offering comments on general value, those surveyed frequently discussed the positive instructional role of the SLMS. Many respondents applauded the SLMS's ability to integrate IL instruction into the general curriculum. Some quotes from the comments exemplify this:

- "Our school library media specialist tries to integrate information studies into our curriculum."
- "I am grateful to have a library media specialist who is energetic and interested in establishing stronger and more meaningful connections between her work with students and their school success"
- "Our school's library media specialist has created a program that reaches beyond the walls of the library by extending learning into the classroom with lessons and offering to help both in the library and classroom. In fact, our library media program is so successful, I can't imagine having a library without a professional library media specialist."

Another common and related thread of principal comments relates to the SLMC as a positive learning environment. Those surveyed noted that students enjoy spending time in the SLMC. Here are some examples:

- "Her sincere interest and enthusiasm in promoting literacy and technology with a love for everyone makes our library an intellectual place to be but creates an atmosphere where students want to hang out and just loves having everyone utilize the library to the fullest."
- "I appreciate the efforts she has made to develop a library that is open to children, parents, and faculty members."
- "Our library is the center of all learning in our school."

- "Our library media specialist plays an integral role with developing literacy for adolescents."
- "Our present librarian is an excellent communicator within our building. She is well respected for her knowledge and for her attention to the needs of the teachers and students. Many students go to the learning center because of her personality and her expertise."
- "Our library media specialist creates Susie Sweetheart and Naughty Nancy to demonstrate how to use materials appropriately. She is Susie Sweetheart. Her sincere interest and enthusiasm in promoting literacy and technology with a love for everyone makes our library an intellectual place to be but creates an atmosphere where students want to hang out, and she just loves having everyone utilize the library to the fullest. We are very fortunate to have Sweetheart Susie take such good care of us!"

Positive collaboration with teachers and staff also was mentioned frequently by principals. Many noted that the SLMS demonstrated a proactive approach to collaboration by being able to integrate his or her instruction via collaboration with content-area teachers. Some quotes from the comments exemplify this:

- "Teachers in this school regularly seek out the LM specialist to coplan and coteach lessons."
- "We have linked our library with our technology lab in order to fulfill the needs of our students. We have a dynamic teacher that promotes both and demonstrates to the students and staff how both places are connected. We also have time built into the schedule where teachers team teach with the LMS during the tech time."
- "Our library media specialist has generated a tremendous renaissance in teacher/staff interest in the resources and services available. Through outreach efforts to department chairs and individual teachers, she has forged connections with many curricular areas. In addition, she has created a cache of research documentation materials that are user-friendly for middle school students and staff and frequently supports our building writing initiative actively in collaborating with subject-area teachers on writing assignments."
- "Teachers spend a great deal of time planning instruction with the SLMS."
- "She is an excellent collaborator and knows a great deal about integrating technology across the curriculum to support instruction."

Another area worthy of mention is leadership. Twenty-eight principals described how their SLMS demonstrates a diverse range of leadership abilities in their school, community, and profession. Two examples exemplify this:

- "Our library media specialist always goes above and beyond her duties. She has a fabulous website, has written articles in the *School Library Journal*, writes grants for the library, and teaches a class for the (regional) Teacher Center. I am very proud to have her as part of the (school) Family."
- "Our school's Media Specialist has been a complete asset to our community. She writes grants and has Poetry Slams. She involves parents and has a great working relationship with our teachers. We have an annual Read Aloud yearly, which is a big event in our community. Politicians and celebrities come and give back to our children. Wherever there is a benevolent act being done, she is at the center of it. We couldn't have chosen a better person."

While the most salient codes reflect an overall positive perception by the principal of the school library and the library professional, there were also some negative perceptions. However, those perceptions appear to be dominated by funding-related issues (e.g., inadequate resources, cramped facilities, the lack of a certified SLMS, and the SLMS being assigned to more than one school), rather than quality issues related to the performance of or services offered by the SLMS. Here are just a few of their comments:

- "We have a great need for more and more current print media."
- "(We are) a small district with an enrollment of 925 students K–12. The SLMS is only in the high school building half days. I'm positive everyone would benefit if she were here full time."
- "Our library media specialist is exemplary. She is stretched very thin by the demand for her expertise and services. I consistently request an aide for her in our building budget, with no luck."
- "Our library is woefully inadequate for our population of students in both physical size and resources."
- "Our school library has not been remodeled or updated in over thirty years. The space is two former classrooms with an adjoining door. The wiring and cable access are cumbersome. My library specialist is tolerant of his limitations and does his very best to serve our children, teachers, and community despite these road blocks"
- "Our library is very, very small and crowded. Limited space has limited computer usage. If it was more spacious, it would be much more inviting for staff and students to use."
- "Her time constraints and travel between schools impacts her ability to forge meaningful, collaborative relationships with faculty members."
- "Our SLMS is fantastic! Our biggest limitation is monetary resources to purchase materials and equipment for our school library."
- "I think that one of the questions you should have asked is do you *have* a library media specialist. We do not and never have. We are dependent on one librarian for four buildings in our district. My school librarian is a teaching assistant. She is good at her job but does not have the knowledge base of librarian media specialist. I've worked with both and there is no comparison. However, there would need to be a method to fund such a position in our district."
- "The year I became principal the library was closed by the superintendent and consolidated with the high school. We have our library back for the first time in four years this year. We share a library media specialist who spends most of her time in the high school. The middle school has a teaching assistant that staffs it most of the time. We would like to have a full time library media specialist."

While rare, there were a few negative comments by principals about their SLMS:

- "My library is used daily for study hall overflow, but does schedule classes. My LM specialist is not comfortable with technology and does not openly support reading, nor promote the SLMC in any capacity."
- "I have an old librarian who needs to retire and won't. She sleeps at her desk and teaches the same lessons year after year. I have only been here two months and need time to improve the setting."

Discussion

This study supports previous research efforts (Lance, Wellborn, and Hamilton-Pennell 1993; Lance et al. 1999; Lance, Rodney, and Hamilton-Pennell 2000; Baumbach, 2002; Baughman, 2002) by demonstrating a positive relationship between school libraries and student achievement, regardless of educational need (school district, student poverty) and the financial resources of the school district. This finding reinforces the value of New York State's K–12 SLMS (teaching) certification because of the positive correlation of having this certification with student achievement, and it confirms that certified SLMSs are more likely to have the knowledge and skills necessary to perform effectively in New York State public school libraries. Based on the New York State Teaching Certification Examination (NYSTCE 2008), these may include such knowledge and skills as

- a broad understanding of the fundamental concepts of library and information science;
- a familiarity with the basic principles and procedures associated with the acquisition, organization, and educational uses of a wide variety of resources;
- a recognition of the characteristics of an effective school library media programs;
- possession of diverse IL skills;
- an understanding of the role of information resources in curriculum development;
- possession of the technical knowledge and leadership qualities needed to administer a library media program;
- use of a variety of strategies and resources to identify and meet the learning needs of all students and other members of the school community; and
- the capacity to teach students of all abilities the skills necessary to address their informational needs and become effective users of information and ideas.

Evidence of a difference in perceived autonomy support on the WCQ between SLMSs and principals is an interesting finding that deserves further investigation. Principal responses to the open-ended question seem to support the fact that principals view themselves as highly supportive of their SLMS, yet this is only partially supported by SLMS responses to the open-ended question. The fact that principals think they are more supportive than SLMSs perceive they are may point to a lack of communication that clearly demonstrates principal support for the SLMS rather than an actual lack of support.

A review of the curriculum of the top ten pre-service school library programs in American universities (U.S. News and World Report 2009) reveals that only one of the programs requires students to take a class devoted to special education resources and services. Of the remaining nine programs, six of the schools have integrated this topic into a variety of courses from youth services to learning technologies to instructional materials. Two programs make mention of the need for special services and encourage students to pursue research and develop programs that support the topic, while one is currently not offering any coursework but is looking to fill the void left from a retired professor who specialized in services to students with disabilities.

The importance of the SLMS in facilitating the use of technology for teaching and learning among students and classroom teachers is indicated both in the responses to survey items and the open-ended responses by both SLMSs and principals. Most school libraries in New York State have fully automated circulation systems, and almost half of the schools offer students access to the library's online catalog from home. Remote access will only continue to increase and become more ubiquitous in the future. SLMSs can and do have an impact on supporting and facilitating

student learning via technology and in training classroom teachers in more effective use of such technologies used both in and out of school.

Conclusion

This article reports the results of the first phase of a three-phase study on the impact of school library services and resources on student achievement and motivation in New York State's schools. Demonstrating a positive correlation between student achievement in ELA tests and the presence of certified SLMS supports the Guidelines for Effective Reading Instruction issued by the NEA Task Force on Reading (2000), which specifies that every school should have a fully funded SLMC that meets the highest of state and/or national standards and a licensed, full-time SLMS. Further evidence of the importance of professional training are the findings that certified school library professionals are more likely to develop library collections that support the general curriculum of the school and that demonstrate diverse points of view.

In phase 2 (fall 2007) of this research study, an in-depth survey was distributed to a representative sample of fourth-, eighth-, and eleventh-grade classroom teachers and fifth-, eighth-, and eleventh-grade students in forty-seven schools statewide. Phase 3 of the study, conducted in spring and fall of 2008, included focus groups with SLMSs, teachers, and student; interviews with building principals in ten schools statewide; and observations and interviews that focused on the relationship between SLMSs to other educators (e.g., principals, classroom teachers); examples of ways in which the SLMS is actualizing the general survey's eight subscale categories; and how AASL's learning standards are currently being addressed with students in school libraries (AASL 2007).

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Cite This Article

Small, Ruth V.; Snyder, Jamie; and Parker, Katie. 2009. "The Impact of New York's School Libraries on Student Achievement and Motivation: Phase I." American Association of School Librarians. <http://www.ala.org/aasl/slmr/volume12/small-snyder-parker>

School Library Media Research (ISSN: *1523-4320*) *is the successor to School Library Media Quarterly Online and the predecessor to School Library Research, an official journal of the American Association of School Librarians. The purpose of School Library Media Research is to promote and publish high quality original research concerning the management, implementation, and evaluation of school library programs. The journal also emphasizes research on instructional theory, teaching methods, and critical issues relevant to the school library profession. Visit the* ***website*** *for more information.*

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