



# **Certified Teacher-Librarians, Library Quality and Student Achievement in Washington State Public Schools**

## **The Washington State School Library Impact Study**

**Washington Library Media Association (WLMA)**

April 1, 2015

Elizabeth Coker, PhD, MEd

## Acknowledgments

Development of the WSSLIT survey began as a conversation between WLMA colleagues Christie Kaaland, Jennifer Fukutaki and Craig Seasholes. Recognizing the potential value of a Washington State survey to add to the school library impact studies from other states, the team called on colleagues from the Pennsylvania School Library Project Deb Kachel, Mary K. Biagini and Keith Curry Lance who all gave generously of their time and expertise. As an initial WSSLIT survey developed, Dennis Small, [Educational Technology Director](#), OSPI, provided the bridge that helped bring the survey to the attention of State Superintendent of Public Instruction Randy Dorn. After refinement by staff at OSPI, the WSSLIT survey was completed with a combination of statewide dissemination and grassroots follow-up by teacher-librarians members too numerous to mention by name. This report was completed by Dr. Liz Coker under contract with WLMA, with partial support from the Washington State Library. To all, a heartfelt thanks. –Craig Seasholes, WLMA President-Elect

## TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>5</b>
<b>INTRODUCTION .....</b>	<b>7</b>
<b>KEY FINDINGS .....</b>	<b>7</b>
<b>BACKGROUND .....</b>	<b>8</b>
<b>DATA AND METHODOLOGY .....</b>	<b>9</b>
THE WASHINGTON STATE SCHOOL LIBRARY AND INFORMATION TECHNOLOGY SURVEY .....	9
SCHOOL-LEVEL ACHIEVEMENT DATA .....	10
SURVEY ANALYSIS .....	10
<b>SURVEY RESPONSE RATE AND REPRESENTATIVENESS.....</b>	<b>12</b>
<b>CERTIFIED TEACHER-LIBRARIANS AND QUALITY LIBRARY SERVICES .....</b>	<b>13</b>
CHARACTERISTICS OF SCHOOLS AND COMMUNITIES WITH AND WITHOUT CTLs .....	14
LIBRARY SERVICES AND CERTIFIED TEACHER-LIBRARIANS: OVERVIEW.....	15
Accessibility and Usage .....	15
Print Collections and Technology .....	16
Curriculum and Instruction: Overview .....	18
Curriculum and Instruction: Instructional Responsibilities .....	18
<b>LIBRARY SERVICES AND HIGH SCHOOL ACHIEVEMENT.....</b>	<b>20</b>
HIGH SCHOOL ACHIEVEMENT AND ON-SITE CERTIFIED TEACHER-LIBRARIANS .....	20
High School Achievement and Instruction in Information Literacy .....	21
HIGH SCHOOL ACHIEVEMENT AND THE LIBRARY QUALITY SCALE (LQS) .....	22
LIBRARY QUALITY AND HIGH SCHOOL ACHIEVEMENT: CONTROLLING FOR SCHOOL SIZE.....	22
LIBRARY QUALITY AND HIGH SCHOOL ACHIEVEMENT: CONTROLLING FOR STUDENT INCOME	24
<b>LIBRARY SERVICES, ELEMENTARY AND MIDDLE SCHOOL ACHIEVEMENT .....</b>	<b>26</b>
LIBRARY QUALITY, ELEMENTARY/MIDDLE SCHOOL ACHIEVEMENT AND SCHOOL SIZE.....	28
<b>ACCESS TO QUALITY LIBRARIES IN PUBLIC SCHOOLS IN WASHINGTON STATE</b>	<b>30</b>
.....	30
GEOGRAPHIC SETTING .....	30
Overview .....	30
Geographic Setting and Library Services .....	31
<b>DISCUSSION AND IMPLICATIONS.....</b>	<b>34</b>
LIMITATIONS OF PRESENT STUDY AND RECOMMENDATIONS FOR FUTURE RESEARCH.....	35
POLICY IMPLICATIONS .....	35
<b>REFERENCES .....</b>	<b>36</b>

### List of Tables

<u>Table 1.</u> Characteristics of Schools that did and did not Respond to the Library Survey .....	12
<u>Table 2.</u> Highest Library Staffing Level: Responding Schools Only .....	14
<u>Table 3.</u> School Characteristics Associated with an On-Site CTL .....	14
<u>Table 4.</u> Percentage of Respondents who Agreed with the Following Statements Regarding the Library Curriculum in their School: Schools without CTLs Compared to Schools with CTLs. ....	18
<u>Table 5.</u> The Relationship between the Availability of Instruction in Information Literacy Skills by a CTL and High School Achievement.....	21

<u>Table 6:</u> Relationship between LQS and High School Achievement Indicators.....	22
<u>Table 7:</u> Relationship between High School Enrollment, Library Quality, and School Performance.....	23
<u>Table 8:</u> Library Quality Score and High School Achievement Indicators, High Schools with Enrollments of 500 or Fewer.....	24
<u>Table 9:</u> High School Achievement and Library Quality in Relation to Student Income .....	24
<u>Table 10:</u> High school Achievement and Library Quality (LQS ranking), Controlling for Student Income (FRPL status).....	25
<u>Table 11:</u> Relationship between Overall Quartile Rank Library Quality Score (LQS) out of 35, and Standardized Reading and Math Scores from the 4 <sup>th</sup> through 8 <sup>th</sup> Grade. ....	26
<u>Table 12:</u> Relationship between School Size, Library Quality, and School Performance.....	28
<u>Table 13:</u> Demographic Characteristics of Schools with and without CTLs on Staff .....	30
<u>Table 14:</u> Examples of School Districts in Different Geographic Setting and County Categories .....	31
<u>Table 15:</u> Relationship between School Location and Library Quality .....	31

### List of Figures

<u>Figure 1.</u> Average Survey Response Rate by Educational Service District (ESD).....	13
<u>Figure 2.</u> Lead Staff as a Proportion of Schools with Libraries .....	14
<u>Figure 3.</u> Library Quality Score (LQS). Total, and Schools with CTLs Compared to those Without CTLs...	15
<u>Figure 4a and 4b.</u> School Libraries with CTLs are more Accessible to Students.....	16
<u>Figure 5a and 5b.</u> School Libraries with CTLs have Larger Print and Technology Resources .....	17
<u>Figure 6.</u> School Libraries with CTLs Have More Up-to-Date and Sophisticated Technology.....	17
<u>Figure 7.</u> Time Spent on Various Duties as a Proportion of the Total Work Week: CTLs Compared to non-CTL Library Staff.....	19
<u>Figure 8.</u> Percentage of Responding Schools Offering the Following Information Literacy Skills - Schools with and without CTLs on Staff.....	19
<u>Figure 9.</u> High School Performance Indicators: High Schools with and without a CTL on Staff.....	20
<u>Figure 10.</u> Library Quality and High School Outcomes - High Schools with fewer than 500 students .....	23
<u>Figure 11.</u> 5-Year Graduation Rates Related to Library Quality and FRPL Status.....	25
<u>Figure 12:</u> Standardized Test Scores from 4 <sup>th</sup> through 8 <sup>th</sup> Grade: Schools Scoring at the Lowest Level Compared to Schools scoring at the Highest Level of the Composite Library Quality Scale.....	27
<u>Figure 13.</u> Average Standardized Test Scores: Elementary and Middle Schools with and without CTLs .....	27
<u>Figure 14.</u> Library Quality Score and Standardized Test Scores, Elementary and Middle Schools with Fewer than 350 Students.....	29
<u>Figure 15.</u> Library Quality Score and Standardized Test Scores: Elementary and Middle Schools with 600 or more Students .....	29
<u>Figure 16.</u> Geographical Location and Access to Quality Library Services .....	32
<u>Figure 17.</u> Percentage of Responding Schools with Certified Teacher-Librarians on Staff and average Library Quality Score (LQS) by County. ....	33

### List of Appendices

- APPENDIX A:** Washington State School Library and Information Technology Program Survey
- APPENDIX B:** Total Survey Responses, and Comparison of Responding Schools with and Without CTLs on Staff.
- APPENDIX C:** Survey Responses and Academic Achievement Indicators.
- APPENDIX D.** Geographic Descriptors and Categories

# CERTIFIED TEACHER-LIBRARIANS, LIBRARY QUALITY AND STUDENT ACHIEVEMENT IN WASHINGTON STATE PUBLIC SCHOOLS

---

## *The Washington State School Library Impact Study*

### Executive Summary

#### Background

The goals of the present study were to describe the current conditions of school libraries in Washington State schools and to evaluate the relationship between quality school library programs staffed by certified teacher-librarians and student achievement. The findings are based on the results of the 2014 Washington State School Library and Information Technology program survey (WSLIT) of public schools sponsored by OSPI and WLMA, linked to school-level student achievement data provided by OSPI.

The WSLIT/OSPI survey response rate was 61 percent, or 1,486 out of a total 2,428 K-12 schools across the state. The linked achievement data included elementary, middle and high school standardized reading and math test scores for 2013/14, as well as 5-year graduation rates for the year 2012/13.

Major findings of the present study include:

- Students who attend schools with certified teacher-librarians and quality library facilities perform better on standardized tests and are more likely to graduate, even after controlling for school size and student income level.
- The presence of a certified teacher-librarian on staff has a particularly high relationship to a school's five-year graduation rate.
- Students who attend schools with on-staff certified teacher-librarians (CTLs) have more equitable access to technologically advanced and accessible library facilities.
- Students who attend schools with certified teacher-librarians staffing their school libraries have greater access to databases and resources for longer times during the school day and are more often accessible outside of school.
- Students who attend schools with certified teacher-librarians are more likely to be taught information technology skills and technology fluency skills.
- Quality public school libraries staffed by full time CTLs are unequally distributed across the State. Students who are least likely to have access to a quality library are disproportionately more likely to face poverty and other risk factors known to adversely impact student achievement.

## Policy implications

- Funding for certified teacher-librarians is uneven among districts and should be a staff-funding priority to improve student success, graduation rates and information literacy instruction in Washington State.
  - Efforts to improve student achievement by addressing risk factors should support staffing of certified teacher-librarians to help reduce the opportunity gap in Washington schools.
  - The impact of a high quality school library with a certified teacher-librarian should be considered part of the funding priorities for improving reading and literacy skills for our state's youngest students.
  - The individualized learning resources, research skills and access to information and resources that can be provided through a school library with a certified teacher-librarian should be a key priority in helping to ensure struggling high school students are able to obtain a high school diploma.
  - Better reporting of library staffing and funding will improve the state's ability to document the impact of school library and information technology programs on student achievement.
-

# CERTIFIED TEACHER-LIBRARIANS, LIBRARY QUALITY AND STUDENT ACHIEVEMENT IN WASHINGTON STATE PUBLIC SCHOOLS

## The Washington State School Library Impact Study

### Introduction

---

Decades of research confirm that quality school library programs staffed by certified teacher-librarians (CTLs) have a positive and lasting impact on student achievement (Kachel, 2011). CTLs play a key role in teaching students to navigate the increasingly complex world of information technology and to develop the critical thinking skills necessary to be career and college ready in the information age.

Despite strong advocacy efforts by parents, educators, and others, however, the State of Washington has cut approximately 200 CTLs from its schools over the past 15 years. Many Washington school districts have gone so far as to eliminate most or all of their librarians and/or library programs. In response to similar threats to school library programs posed by budget cuts, recent studies in 22 different states have demonstrated repeatedly and conclusively that effective school library programs contribute positively to the academic success of elementary and secondary students. While this collection of evidence has made a positive difference in other states, as of the 2012-13 school year there had been no measurable increase in the number of CTLs employed in Washington State public schools. The goals of the present study were to describe the current conditions of school libraries in Washington State schools and to evaluate the relationship between quality school library programs staffed by CTLs and student achievement.

### Key Findings

---

- 1. Students who attend schools with on-staff certified teacher-librarians (CTLs) benefit from technologically advanced and accessible library facilities and ongoing instruction of information literacy skills.**
- 2. Students who attend schools with CTLs and quality library facilities perform better on standardized tests and are more likely to graduate, even after controlling for school size and student income level.**
- 3. Quality public school libraries, as indicated by a paid CTL on staff, are unequally distributed across the state. Students who are least likely to have access to a quality library are disproportionately more likely to face poverty and other risk factors known to adversely impact student achievement.**

## Background

---

A 2011 review of school impact studies confirm that well-funded school library programs staffed by a certified teacher-librarian produce a consistent positive influence on student learning (Kachel et al., 2011). According to this review the most consistent educational benefits were directly attributable to “the presence of a full-time, certified school librarian and appropriate support staff who implement a quality, school-integrated program of library services” (Kachel, et al, 2011, p. 4). Kachel and her colleagues identified the following library elements as particularly important to student learning:

- Increased hours of access for both individual student visits and group visits by classes;
- Larger collections of print and electronic resources with access at school and from home;
- Up-to-date technology with connectivity to databases and automated collections;
- Instruction implemented in collaboration with teachers that is integrated with classroom curriculum and allows students to learn and practice 21st century skills, such as problem-solving, critical thinking, and communication of ideas and information;
- Increased student usage of school library services;
- Higher total library expenditures; and
- Leadership activities by the librarian in providing professional development for teachers, serving on key committees, and meeting regularly with the principal.

Kachel’s 2011 review also concluded that, although poverty adversely impacts students’ academic success, neither poverty nor related socio-economic conditions can explain away the benefits of school library programs<sup>1</sup>. Quality school library programs may play an even greater role in providing academic support to those students who come from economically disadvantaged backgrounds. A 2011 study commissioned by the Pennsylvania Board of Education concluded that full-time library staff and additional library support staff benefit students of all abilities regardless of their racial, ethnic, or economic backgrounds.

CTLs and qualified library support staff appear to be the key factor behind quality library services. A recent study in Colorado found that students at schools that gained or maintained a CTL to manage the library program averaged higher [standardized] reading scores and higher increases in those scores over time compared to students at schools whose library programs were run by either non-endorsed librarians or library assistants (Lance & Hofschire, 2012). Another study by Todd, Gordon, and Ya-Ling Lu (2011) confirmed the role of CTLs in providing expert instruction in information technology literacy skills, and cost-effective professional development and learning innovation.

The present study was designed to examine the relationship between CTLs and student achievement in public schools in Washington State. The key research questions follow:

- How many schools in Washington State have on-site CTLs, and what distinguishes these schools from schools that do not employ CTLs?

---

<sup>1</sup> Refer to reference section for complete bibliography of studies included in Kachel’s 2011 review.



- Is there a relationship between an on-site CTL and the quality of school library resources, including but not limited to collections, technology, and accessibility?
- Is there a relationship between an on-site CTL and the availability and quality of instruction for information literacy skills?
- Is there a relationship between an on-site CTL and student achievement in elementary and secondary schools?
- If quality libraries and CTLs are linked to student success, how equitable is the access to these resources throughout Washington State?

## Data and Methodology

---

### The Washington State School Library and Information Technology Program Survey

The data used in the present analysis included the results of a comprehensive statewide survey of available library services in public schools in Washington State, completed by April of 2014. The survey results were linked directly to school-level student achievement data for the 2013/14 academic year, provided by the Washington State Office of the Superintendent of Public Instruction (OSPI).

The survey was developed by a team consisting of representatives from the Washington Library Media Association (WLMA) and other nationally-known experts in the field, with input from the following agencies and individuals:

- OSPI (Washington’s Office of Superintendent of Public Instruction)
- WSIPP (Washington State Institute of Public Policy)
- WEA (Washington Education Association)
- QEC (Quality Education Council)
- Washington State Board of Education
- Representatives of district superintendents and administrators, PTSA members, and teachers

The final version of the survey contained approximately 40 questions or sets of questions organized primarily in a multiple-choice format (see [Appendix A](#)). The survey covered the following topics: Individual school-building characteristics; Characteristics of students served; Characteristics of library facilities, including staffing, hours, inventory, technology and scheduling; CTL characteristics, including curriculum and instruction and satisfaction with services provided; and Budget.

The survey was sent to all school districts in Washington State in January of 2014 on behalf of OSPI. Districts were instructed to distribute the survey to all school buildings in their district and ask a representative from each school to complete this survey, regardless of whether or not the school had a library facility. Several reminders were sent out before the survey closed in April of 2014.

## School-Level Achievement Data

The school names provided by the survey respondents were linked to standard OSPI building codes, and, in turn, linked to publicly-available school and district-level enrollment, assessment, and graduation data from OSPI.

The linked achievement data included standardized test scores for 2013/14, as well as 5-year graduation rates for the 2012/13<sup>2</sup> school year. Selected school-level outcomes for the present study were 4<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade standardized reading and math scores, 10<sup>th</sup> grade standardized reading scores, first and second-year End-of-Course (EOC) math scores, and the 2012/13 five-year graduation rate. Some outcome data were missing from some of the schools in a more or less random pattern. Therefore, the sample sizes for each outcome reflect the number of schools included in the study that also had available data for that particular outcome. The data sources for the achievement and relevant school and district data follow:

- a. School and district-level demographic data, 2013/14 (OSPI).
- b. School-level standardized test scores, 2013/14 (OSPI).
- c. School-level five-year graduation rates, 2012/13 (OSPI).
- d. School and district-level geographic data, Education Research and Data Center (ERDC).

## Survey Analysis

Approximately ten surveys were discarded because the school name provided did not fit an existing school name, because they were written on the behalf of an entire district rather than a school or schools, or for a similar reason. Other responses clearly encompassed more than one school (as indicated by name and reported grade levels), usually in smaller districts. In this case if the two schools were clearly identifiable, then the single survey was applied to both schools. Many smaller districts will hire one CTL to staff more than one building and it is important that these contributions be captured in the present study. The final analysis was based on survey data from 1,486 schools across the state.

The survey response rate was estimated at 61 percent, assuming a total population of 2,428 separate schools. Certain categories of schools were not offered the opportunity to complete the survey and so were excluded from the population total, including juvenile detention center schools, skills centers, etc. However, it is likely that the 942 non-responding schools also included those that would not have been likely to have received the survey (e.g., home school or online programs). Therefore, 61 percent is likely an under-estimation of the actual survey response rate.

Sixty-two percent (928) of the surveys were completed by self-identified CTLs, 10 percent by administrators, 9 percent by teachers certified in another (non-library) subject, 13 percent by paraprofessionals, almost 5 percent by “other” staff, and less than 1 percent by volunteers.

---

<sup>2</sup> The standardized tests used in Washington State in 2013/14 included the “Measurement of Student Progress (MSP) for grades 4 through 8, the “High School Proficiency Exam” (HSPE) for 10<sup>th</sup> grade reading and “End of Course” (EOC) exams for high school math <http://www.k12.wa.us/assessment/StateTesting/default.aspx>.

An initial exploratory analysis of the survey responses was conducted to determine if each set of responses showed sufficient variability across schools. Response categories for several of the survey questions were recoded after the fact in order to compensate for under-populated categories and improve the power of the statistical analyses.

Appendix B presents the survey responses, including the total proportion of responses and a comparison of schools with CTLs and schools without CTLs. In the following pages, most of the survey items are discussed both individually and in relation to larger categories or themes. As mentioned, certain survey items were not useful because they did not demonstrate sufficient variability. These included items focused on libraries that had since closed (very few schools fell in this category) and a few questions that appear to have been misinterpreted by respondents.

In addition to the analyses of individual items, a composite indicator of library quality was calculated from a subset of the survey items related to the accessibility of the library to students and teachers, the quality of the print collection, and the availability of computers and access to web-based information – in other words, resources, technology and accessibility. These nine items were combined into a composite score based upon the inter-correlations of the items with other items on the scale. The 9 items were weighted and combined into a “Library Quality Scale” (LQS). The LQS consists of a scale score ranging from 0 to 35, with a higher score indicating higher scores across the 9 items and higher overall library quality. The box below lists the survey items included in the LQS.

SURVEY ITEMS INCLUDED IN LIBRARY QUALITY SCALE (LQS)
<b>Hours</b> <ul style="list-style-type: none"><li>• What is the average number of hours per week the school library is open and staffed for teachers and students to use?</li><li>• In a typical <u>week</u>, what is the approximate <u>number of group or class visits</u> to your school's library for ANY reason?</li></ul>
<b>Inventory</b> <ul style="list-style-type: none"><li>• What is the approximate number of books in print format in your school's library?</li><li>• Do the Fiction print resources (books and magazines) in your school library meet the overall needs of students and faculty?</li><li>• How many licensed, web-based, informational databases can students access via paid school subscriptions?</li></ul>
<b>Technology</b> <ul style="list-style-type: none"><li>• How many computers are housed in and available in your school library for direct instruction and/or student use during library programs?</li></ul>
<b>Scheduling</b> <ul style="list-style-type: none"><li>• In a typical <u>week</u>, what is the approximate <u>number of group or class visits</u> to your school's library for ANY reason? (e.g., number of groups, not individuals)</li><li>• In a typical <u>day</u>, approximately how many <u>individual students</u> visit the school library to use library resources who are not part of a class or group?</li></ul>
<b>Miscellaneous</b> <ul style="list-style-type: none"><li>• Does your school library participate in any of the following formal educational technology assessments? (CBAs, TRAILS, other, etc).</li></ul>

## Survey Response Rate and Representativeness

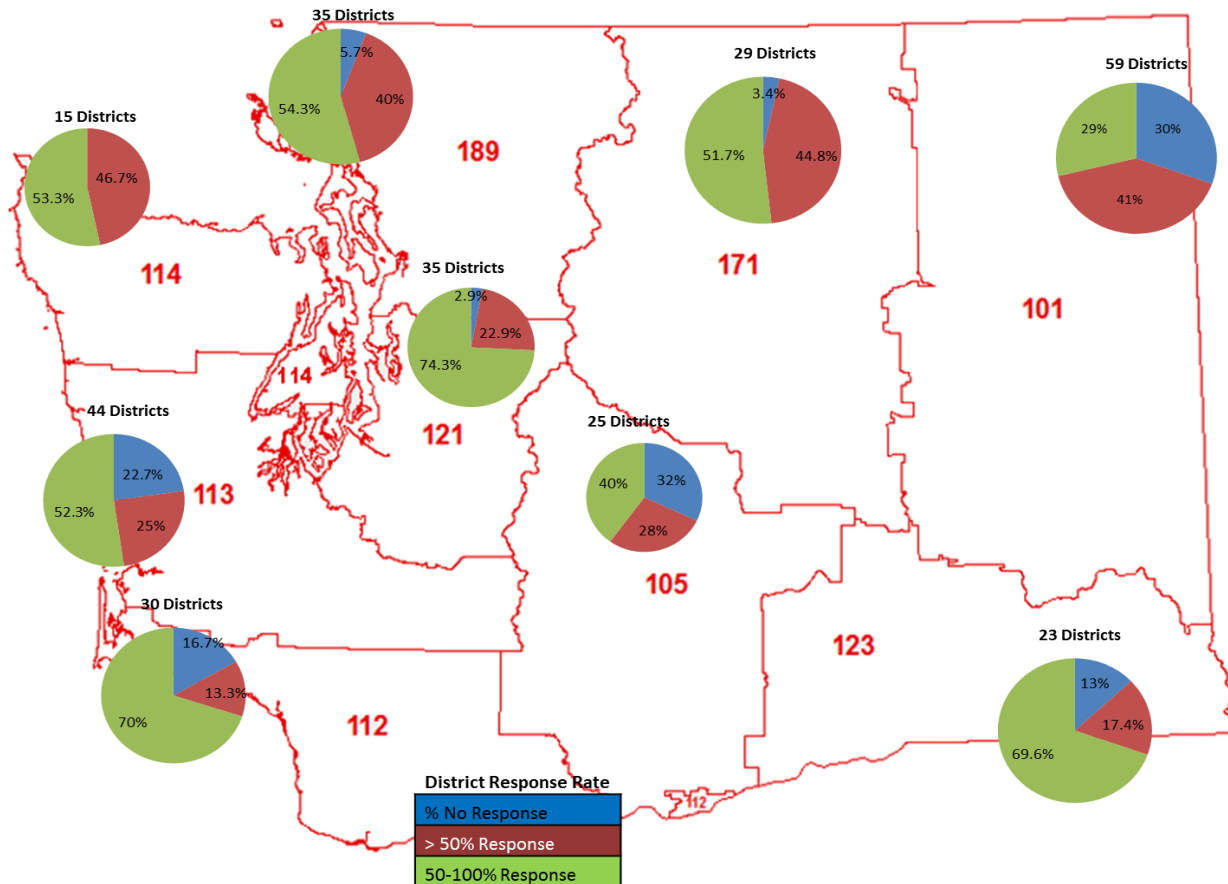
*The survey response rate was sixty-one percent, or 1,486 out of a total 2,428 schools across the state.* As [Table 1](#) shows, small schools (<100 students) were under-represented among the survey responders compared to the schools that did not return the survey (the “non-responders”). High schools were slightly underrepresented among the responders (17.3% of the survey respondents compared to 22% of the non-respondents) while elementary schools were over-represented. Finally, schools in “distant” (small or rural) areas were under-represented in the survey responses, while those in large metro or suburban regions were somewhat over-represented.

**Table 1. Characteristics of Schools that did and did not Respond to the Library Survey.**

	Responders		Non-Responders		TOTAL	
TOTAL	1,486	61.2%	942	38.8%	2,428	100%
<b>School Size*</b>						
• <100	70	4.7%	209	22.2%	279	22.2%
• 101 to 500	688	46.3%	312	33.1%	1,000	33.1%
• 501 to 1,000	585	39.4%	121	12.9%	706	12.9%
• 1,001 to 2,000	127	8.5%	14	1.5%	141	1.5%
• 2,000	16	1.1%	1	0.11%	17	0.11%
<b>Missing</b>	<b>0</b>	<b>0.0%</b>	<b>285</b>	<b>30.3%</b>	<b>285</b>	<b>30.3%</b>
<b>School Grade Span</b>	<b>Respondents</b>		<b>Non-Respondents</b>		<b>TOTAL</b>	
• PK and/or K only	3	0.2%	9	0.96%	12	0.49%
• Early Elementary (Pk/K to 3)	26	1.7%	14	1.5%	40	1.7%
• Late Elementary (3/4 to 5/6)	18	1.2%	12	1.3%	30	1.3%
• Elementary (K/1 through 6)	800	53.8%	275	29.4%	1,075	44.3%
• Elementary/Middle (K/1 through 9)	45	3.0%	47	5.0%	92	3.8%
• K to 12	19	1.3%	136	14.4%	155	6.4%
• Middle School (5/6 to 9)	271	18.2%	131	13.9%	402	16.6%
• Middle/High (6/7 to 12)	47	3.2%	80	8.5%	127	5.2%
• High School (9 or higher)	257	17.3%	210	22.3%	467	19.2%
<b>Missing</b>	<b>0</b>	<b>0.0%</b>	<b>28</b>	<b>3.0%</b>	<b>28</b>	<b>1.2%</b>
<b>Geographic Setting (Schools)</b>	<b>Respondents</b>		<b>Non-Respondents</b>		<b>TOTAL</b>	
• Distant	335	23.3%	259	39.6%	594	28.4%
• Large Metro	223	15.5%	61	9.3%	284	13.6%
• Metro Suburb	420	29.3%	132	20.2%	552	26.4%
• Mid-Size	290	20.2%	116	17.7%	406	19.4%
• Urban Fringe	167	11.6%	86	13.1%	253	12.1%
<b>Missing</b>	<b>51</b>	<b>3.4%</b>	<b>288</b>	<b>30.6%</b>	<b>339</b>	<b>14.0%</b>

The proportion of responding schools varied considerably across the nine Educational Service Districts (ESDs) and 295 school districts in the state. [Figure 1](#) provides a rough visual indicator of the degree of geographic variability in the survey response rate within each ESD. For example, 30 percent of the 59 districts in ESD 101 had no schools included in the survey, while 29 percent had between 50 and 100% of their schools included in the survey. In ESD 121, on the other hand, only 2.9 percent of the 35 districts were not represented at all in the survey, while 74 percent had a 50-100% response rate. This indicates that not all regions are equally represented in the analyses.

Figure 1: Average Survey Response Rate by Educational Service District (ESD).



- Blue: Percentage of districts in ESD from which no schools responded to the survey.
- Red: Percentage of Districts in ESD with less than 50% of schools included in survey results.
- Green: Percentage of Districts in ESD with between 50 and 100% of schools included in survey results.

## Certified Teacher-Librarians and Quality Library Services

Of the 1,486 survey respondents, 1,437 (96.7%) reported having an on-site library facility. However, as will be shown, **it is the quality of the library facility and related instructional services rather than its presence or absence that makes a difference for student achievement.** This section focuses on variations in library quality and the key role of CTLs in maintaining sophisticated library facilities and, more importantly, teaching both students and staff the information literacy skills needed to make the best use of these services.

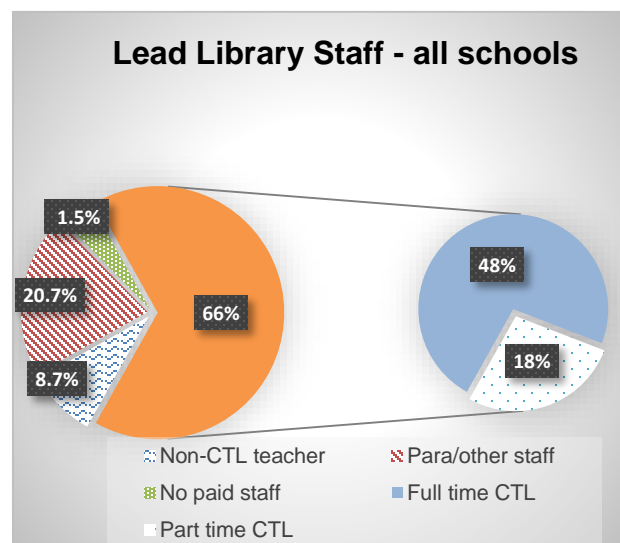
**Table 2. Highest Library Staffing Level: Responding Schools Only**

STAFFING CATEGORY	TOTAL % of total (1,437)
Certified teacher-librarian – Full-time	696 (48.4%)
Certified teacher-librarian – Part time	259 (18.0%)
Teacher certified in non-library subject --Full-time	69 (4.8%)
Teacher certified in non-library subject --part-time	56 (3.9%)
Para-professional/non certified staff -- Full-time	156 (10.9%)
Para-professional/noncertified staff – Part-time	140 (9.8%)
Unpaid volunteers only	22 (1.5%)
No response	39 (2.7%)
<b>TOTAL RESPONDENTS</b>	<b>1,437</b>

Forty-eight percent of the responding libraries were staffed by a full-time CTL, while 18 percent employed a part-time CTL. [Table 2](#) and [Figure 2](#) depict the highest level of staffing for each of the reporting libraries, in order of experience and expertise, beginning with full-time and part-time CTLs, non-library-certified teachers, para-professionals or other non-certified staff, and volunteers. These figures do not reflect the total number of staff at each library, only the highest staff qualification. [Table 3](#) presents the characteristics of schools with CTLs on staff. It shows that larger schools are far more likely than smaller

schools to employ CTLs, as are the more typical elementary, middle and high schools compared to schools that span more grades (which also tend to be smaller).

**Figure 2. Lead Staff as a Proportion of Schools with Libraries**



**Table 3. School Characteristics Associated with an On-Site CTL**

School Characteristics	TOTAL	No CTL	CTL
TOTAL	1,437	33.5%	66.5%
<b>School size*</b>			
• <200	116	85.3%	14.7%
• 201 to 500	601	38.6%	61.4%
• 501 to 800	493	25.2%	74.8%
• 801 -1,200	111	15.3%	84.7%
• 1,200+	116	8.6%	91.4%
<b>Grade span</b>			
• PK/K - 6	791	38%	62%
• K/1- 9/12	42	67%	33%
• 5/6 to 9	266	28%	72%
• 6/7 to 12	42	76%	24%
• 9 or higher	238	26%	74%

### Characteristics of Schools and Communities With and Without CTLs

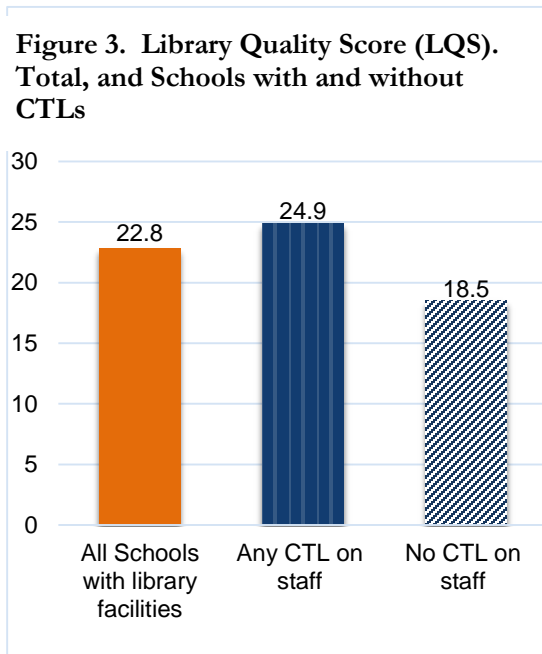
Schools with CTLs differ from those without CTLs in important ways. First, larger schools and schools in larger districts are more likely to employ CTLs: the average enrollment for the 64 percent of responding schools with CTLs on staff was 666 compared to 400 for those without CTLs. Schools located in counties with higher rates of poverty, unemployment, and incidents of child abuse or neglect were less likely to have CTLs on staff.

These demographic differences are important because these factors are also significantly correlated with student outcomes. Overall, smaller schools tend to lag behind larger schools in academic achievement, as do schools located in more rural areas with higher rates of poverty. The following analyses will take these factors into consideration as much as possible given the limitations of the available data.

### Library Services and Certified Teacher-Librarians – Overview

Compared to non-certified library staff, **CTLs are far more likely to be directly involved in teaching curriculum designed around Common Core standards. CTL-staffed libraries are more likely to use up-to-date library curriculum developed in collaboration with general education teachers.** CTLs carry a heavy load of teaching responsibilities focused on information technology; skills that are necessary for success in higher education as well as virtually any profession in today’s world. The value-added of CTLs is apparent across a variety of domains, as will be explored in the following sections<sup>3</sup>.

School libraries staffed by CTLs scored significantly higher on the library quality scale (LQS) than schools without CTLs (see [Figure 3](#)), indicating that CTLs are associated with more library resources, better hours, and more advanced library technologies. The overall library quality score is only part of the story, however. Students who attend schools with CTLs also benefit from far more direct information literacy instruction. The results presented in this section highlight the primary role of CTLs as educators.



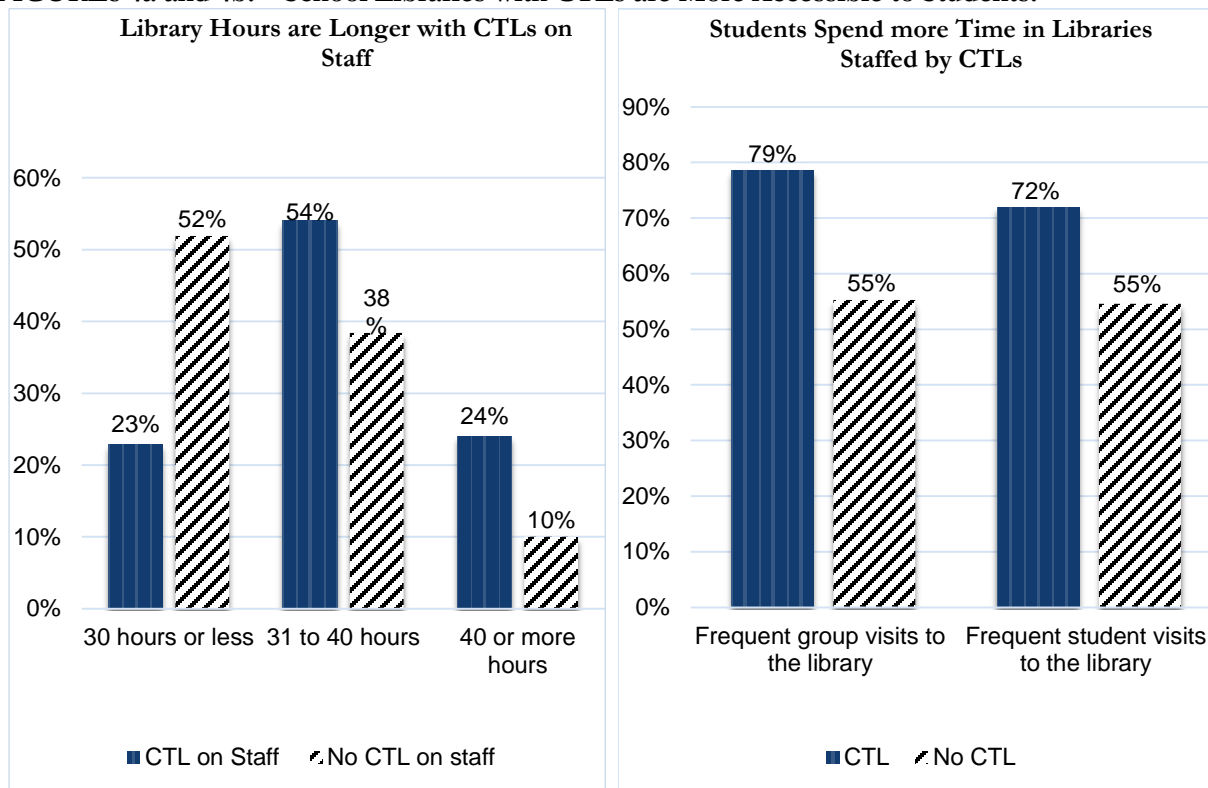
### Accessibility and Usage

A school library can only benefit students insofar as it is available for student use. The present results indicate that libraries staffed by CTLs are more accessible and are used more frequently than libraries without CTLs. [Figure 4a](#) compares the proportion of school libraries open less than 30 hours, from 31 to 40 hours, or more than 40 hours per week according to whether or not they are staffed by a CTL. Libraries staffed by CTLs are open and available to students for significantly more hours than are libraries without CTLs on staff. In turn, students attending schools with CTLs on staff spend more time in the library both individually and in learning groups ([Figure 4b](#)).

---

<sup>3</sup> Please refer to Appendix X for complete tables of survey responses, combined, along with comparisons between schools with and without CTLs and indicators of statistical significance.

**FIGURES 4a and 4b: School Libraries with CTLs are More Accessible to Students.<sup>4</sup>**



### Print Collections and Technology

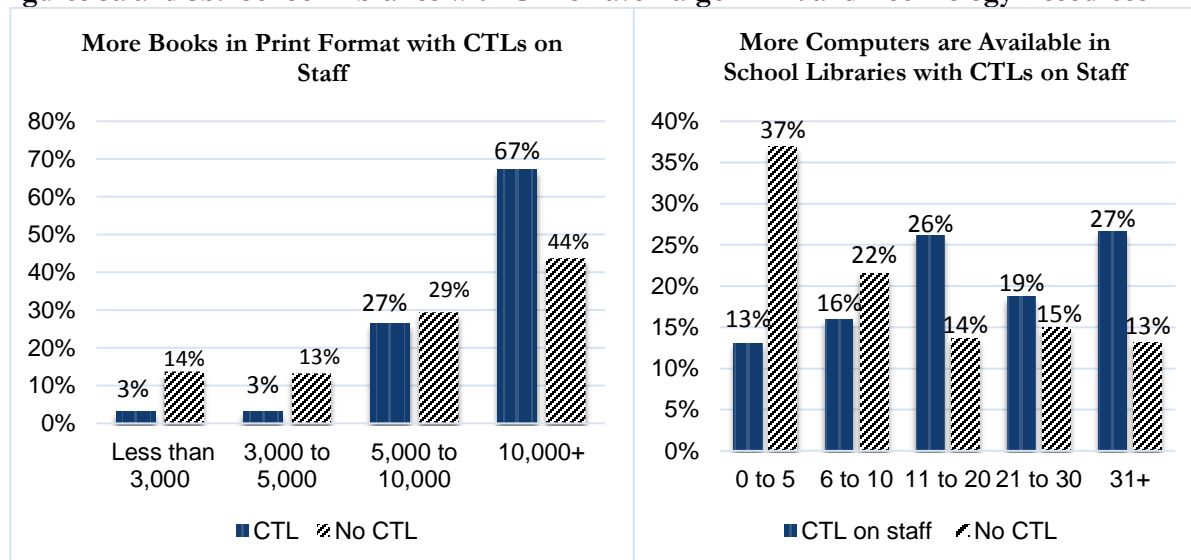
Libraries staffed by CTLs have larger collections of print books, a higher total circulation per year, and more computers available for student use compared to libraries with different staffing configurations (see [Appendix B](#) and [Figures 5a and 5b](#), below). As shown in [Figures 5a and 5b](#), 67 percent of libraries staffed by CTLs have 10,000 or more books in print format, compared to only 44 percent of libraries not staffed by CTLs. Sixty-one percent of libraries staffed by CTLs have at least 11 to 20 available computers for student use, while 37 percent of libraries staffed by non CTL personal have less than 5 available computers. As will be seen, the relationship between a CTL on staff and library resources is consistent regardless of school size.

In addition to more books and computers, libraries staffed by CTLs have more online resources available to both students and staff. **School libraries staffed by CTLs are far more likely to provide on-site and remote access to commercially-available online catalogs and databases of published materials, allowing for library access outside of school hours** (refer to [Figure 6](#)). The additional access provided through information technology can therefore enhance student learning beyond the school day.

<sup>4</sup> All differences between CTLs and non-CTL's are statistically significant, t-test p.<.001

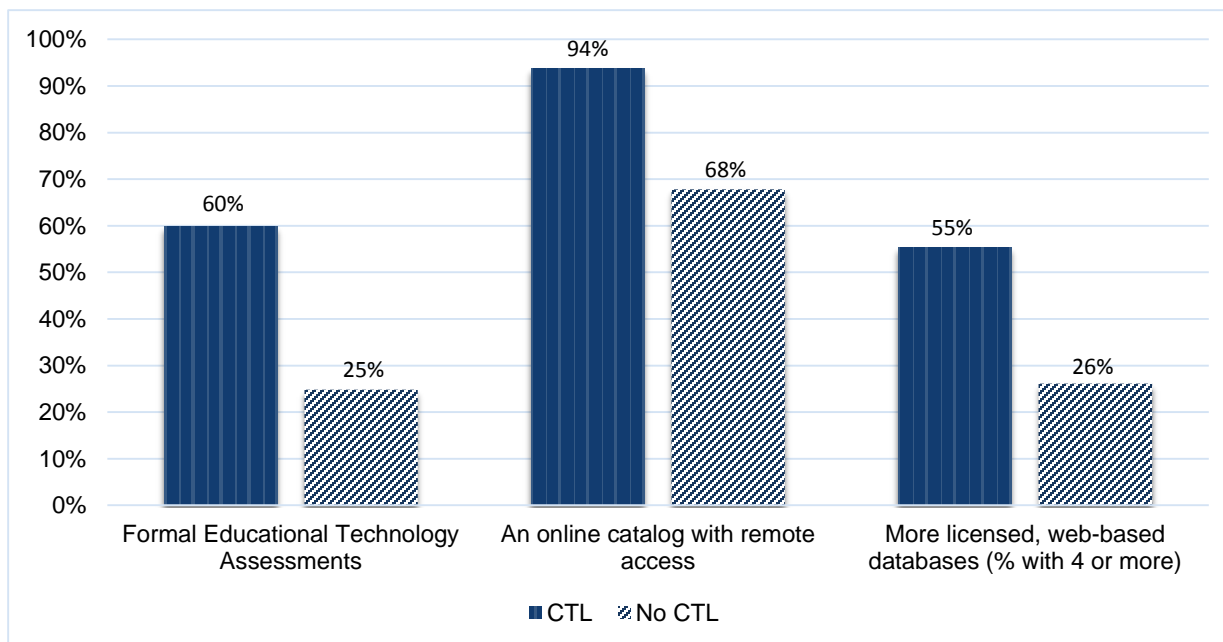


**Figures 5a and 5b. School Libraries with CTLs have Larger Print and Technology Resources**



Information science and technology are CTL areas of expertise, and this is evident in the overall quality of the information technology available in libraries staffed by CTLs. For example, compared to non-certified library staff, CTLs are committed to participating in regular technology assessments such as *CBAs* or *TRAILS* in order to ensure that their resources remain up-to-date in a rapidly changing information age.

**Figure 6. School Libraries with CTLs have More Up-to-Date and Sophisticated Technology Resources than Libraries without CTLs**



\*All differences between CTLs and non-CTLs are statistically significant, *t*-test  $p < .001$

## Curriculum and Instruction - Overview

CTLs play an important role in teaching students the critical thinking and practical skills necessary to navigate the barrage of information to which they are daily exposed. Information literacy, as these skills are often referred to, is critical to success in higher education as well as in almost any profession. For these reasons CTLs are actively involved in teaching students and collaborating with other teachers to ensure that students graduate with the skills needed to differentiate, for example, between a peer-reviewed published research paper and somebody's late-night blog on the same topic.

The survey included a number of questions concerning the degree to which CTLs or other library staff provide direct instruction and contribute to the core curriculum. As might be expected, there were significant differences between CTLs and non-CTLs in the area of curriculum and instruction. Over 80 percent of responding CTLs reported that they were “very” or “somewhat” involved with the Common Core State Standards, compared to 41 percent of the non-certified library staff (including the non-librarian teachers) (see [Appendix B](#)). As part of their contribution to the core curriculum, library respondents were asked to indicate which of the five statements listed below in [Table 4](#) best defined the library curriculum at their school.

**Table 4: Percentage of Respondents Who Agreed with the Following Statements Regarding the Library Curriculum in their School: Schools without CTLs Compared to Schools with CTLs.**

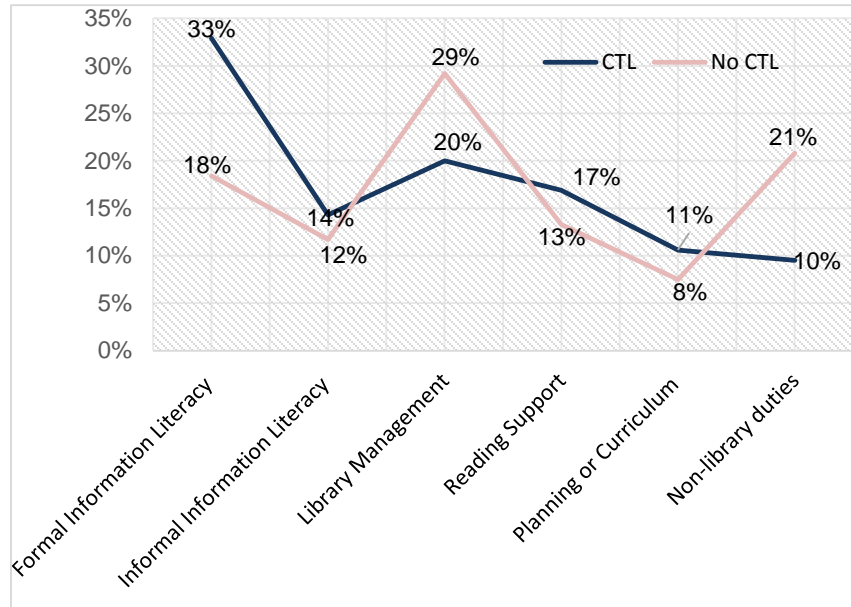
	No CTL	CTL
“Part of a grade leveled or sequenced, board and/or district approved information literacy curriculum written/revised in the past 5 years”	7.7%	17.5%
“The library delivers objectives which were created and are delivered in collaboration with teachers and their curriculum”	16.9%	30.9%
“Part of a grade leveled or sequenced, board and/or district approved information literacy curriculum written/revised more than 5 years ago	4.9%	8.2%
“Written in the past five years, but is not part of a sequenced written information literacy curriculum”.	3.9%	12.7%
“The library in this building does not utilize a written or specified curriculum and/or uses an outdated curriculum”	66.6%	30.7%

The CTLs were less than half as likely as the non-CTLs to indicate that their library did not utilize any particular up-to-date curriculum (30.7 compared to 66.6 percent). On the other hand, they were far more likely than non-CTLs to describe their curriculum as “*Part of a grade leveled or sequenced, board and/or district approved information literacy curriculum written/ revised in the past 5 years*” or “*were created and are delivered in collaboration with teachers and their curriculum*”.

## Curriculum and Instruction – Instructional Responsibilities

CTLs reported spending much of their time providing direct instruction to students in different aspects of information literacy, either in the library itself or in classrooms. All respondents were asked to indicate what proportion of their time each week was spent on the tasks listed in [Figure 7](#) (below). Compared to non-CTLs, CTLs spend considerably more time on formal instruction of information literacy skills and considerably less time (relatively speaking) on library management and duties unrelated to the library.

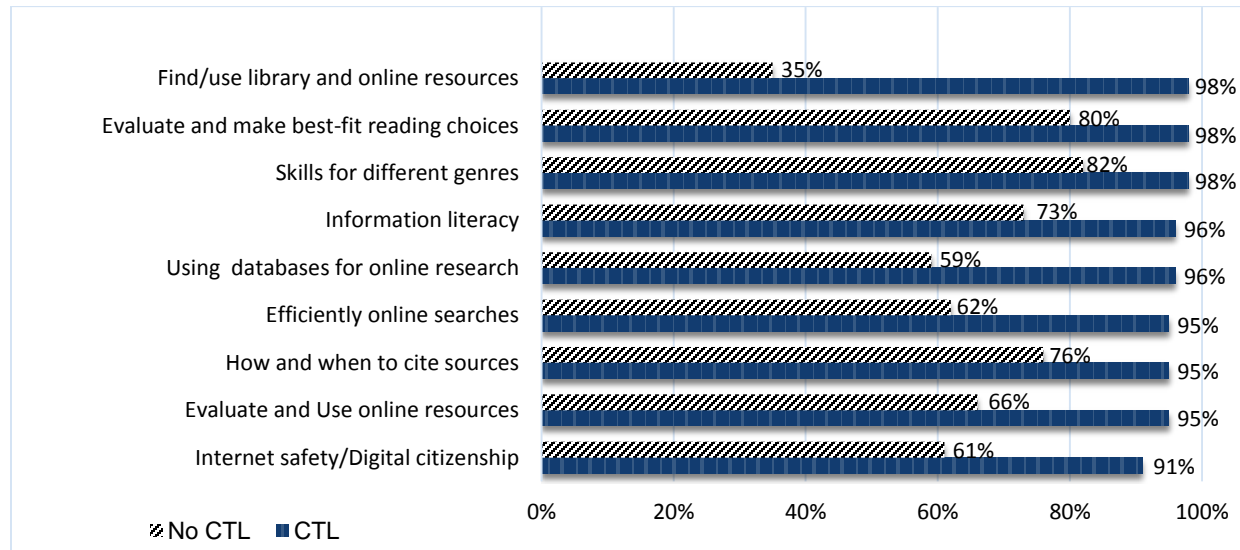
**Figure 7. Time Spent on Various Duties as a Proportion of the Total Work Week: CTLs Compared to non-CTL Library Staff.**



Each respondent was also asked to indicate whether each of a series of information literacy skills were either 1) Taught by a CTL, 2) Taught by a non-librarian certified teacher, or 3) not taught at all. As shown in Figure 8, all of the listed information literacy skills are far more likely to be taught when there is a CTL on staff, and when there is a CTL on staff, he or she is almost always responsible for teaching those skills. Skills such as how to effectively use

online databases, efficiently locate and evaluate resources, cite sources, and synthesize information are taught in almost all schools with CTLs. In contrast, students attending schools without CTLs are far less likely to receive the instruction in information technology necessary to succeed in higher education and future careers. As will be shown in a later section, formal instruction in information literacy is associated with higher test scores and improved graduation rates.

**Figure 8. Percentage of Responding Schools Offering the Following Information Literacy Skills - Schools with and without CTLs on staff**



*\*\*All differences are statistically significant,  $p < .01$ .*

## Library Services and High School Achievement

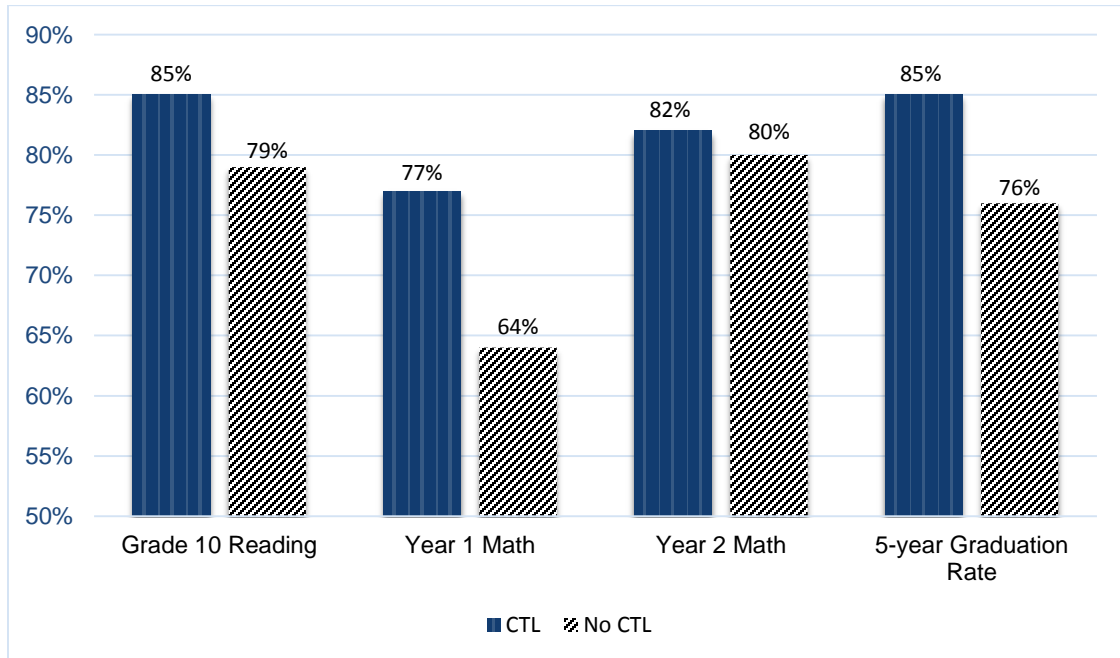
The Library Quality Scale (LQS) is frequently used in the following sections as a proxy for library quality in relation to student achievement. With its 0-35 point scale it is far more statistically robust than are individual survey items. As shown earlier, the LQS score has a strong positive relationship to the presence of a CTL and to other indicators of library strength. **As a proxy, therefore, the “LQS” should be interpreted as representing all of the factors that contribute to a quality school library.**

The high school performance indicators and outcomes used in the present study included the following: standardized high school reading scores (HSPE) (usually taken in the 10<sup>th</sup> grade); first and second year End-of-Course (EOC) math scores (equivalent to standardized test scores and taken at any point before graduation); and 5-year high school cohort graduation rates. These indicators were available for the majority of the high schools, middle/high schools, and K-12 schools included among the survey respondents, and any missing data was relatively uncommon and randomly distributed. A total of 304 schools were included in the analysis of high school achievement indicators (Refer to [Appendix C](#) for more information).

### High School Achievement and On-Site Certified Teacher-Librarians

High schools with CTLs on staff had an average five-year graduation rate of 85 percent compared to 76 percent for high schools without CTLs ([Figure 9](#), below). Standardized reading scores and year 1 math scores were also significantly higher in schools with CTLs (see [Appendix C](#) for the complete results).

**Figure 9. High School Performance Indicators: High Schools with and without a CTL on Staff**



*\*All differences except Year 2 math were statistically significant,  $p < .01$*

## High School Achievement and Instruction in Information Literacy

As discussed earlier, on-staff CTLs provide direct instruction in a variety of information literacy skills, a benefit that is often not available in schools without a CTL. **High schools that provide instruction in information literacy skills taught by a CTL also have significantly higher rates of passing 10<sup>th</sup> grade reading and first-year math, and as well as higher overall graduation rates.** There were no differences in achievement levels between schools that did not teach these skills and schools in which these skills were taught by a non-CTL, so these two categories were combined as shown below in [Table 5](#).

**Table 5. The Relationship between the Availability of Instruction in Information Literacy Skills by a CTL and High School Achievement**

CTL teaching responsibilities related to information technology	TOTALS	Grade 10 reading	Year 1 EOC math	5-year Graduation rate
<b>How to locate and use library and online resources</b>				
• Certified teacher-librarian	168	<b>84%</b>	<b>76%</b>	<b>85%</b>
• Classroom teacher/not taught	131	80%	66%	77%
<b>How to evaluate and make best-fit reading choices</b>				
• Certified teacher-librarian	144	<b>85%</b>	<b>77%</b>	<b>85%</b>
• Classroom teacher/not taught	155	80%	68%	79%
<b>Skills for using different types of information</b>				
• Certified teacher-librarian	111	<b>84%</b>	<b>77%</b>	<b>85%</b>
• Classroom teacher/not taught	188	81%	70%	79%
<b>Information literacy/research cycles</b>				
• Certified teacher-librarian	144	<b>84%</b>	<b>77%</b>	<b>85%</b>
• Classroom teacher/not taught	155	81%	68%	79%
<b>How to use databases for online research</b>				
• Certified teacher-librarian	163	<b>84%</b>	<b>76%</b>	<b>85%</b>
• Classroom teacher/not taught	136	80%	67%	78%
<b>How to search efficiently online</b>				
• Certified teacher-librarian	157	<b>84%</b>	<b>76%</b>	<b>85%</b>
• Classroom teacher/not taught	142	80%	67%	78%
<b>How and why to cite sources</b>				
• Certified teacher-librarian	142	<b>85%</b>	<b>77%</b>	<b>85%</b>
• Classroom teacher/not taught	157	81%	68%	78%
<b>How to evaluate and use online resources</b>				
• Certified teacher-librarian	154	<b>84%</b>	<b>77%</b>	<b>85%</b>
• Classroom teacher/not taught	145	80%	67%	78%
<b>Internet safety/digital citizenship</b>				
• Certified teacher-librarian	109	<b>85%</b>	<b>77%</b>	<b>86%</b>
• Classroom teacher/not taught	190	81%	70%	79%

*All differences are statistically significant  $p < .01$ .*

## High School Achievement and the Library Quality Scale (LQS)

Total scores on the Library Quality Scale (LQS) were used to evaluate the relationship between overall library quality and the four high school performance indicators included here. The combined average score on the LQS for all high schools was 22.6 out of 35, plus or minus 9.2. To facilitate the analysis and presentation of the relationship between the scores on the LQS and each of the four high school achievement indicators, each school was ranked from 1 to 4 according to whether they scored in the lowest quartile of the LQS (with a score of about 8/35 or lower); the second lowest quartile (scores of 9 to 17) the third quartile (18 to 26) or the highest quartile (higher than 26).<sup>5</sup>

There was a strong and significant relationship between library quality as indicated by quartile ranking on the LQS and all four of the high school outcomes reported. As [Table 6](#) (below) shows, the average 5-year graduation rate was 70.5 percent for the 90 high schools that scored 8 or lower on the library quality composite, compared to 86.9 percent for those who scored 27 or higher. Standardized reading and math scores followed the same pattern, with average scores increasing steadily with library quality.

**Table 6: Relationship between LQS and High School Achievement Indicators**

*\*Except for first row, all percentages refer to column totals*

HIGH SCHOOL ACHIEVEMENT INDICATORS	ALL	Bottom 25% (<9)	Second lowest (9 to 17)	Second highest (18 to 26)	Top 25% (above 26)
<b>TOTAL SCHOOLS WITH ANY HIGH SCHOOL OUTCOME DATA</b>	<b>304</b>	<b>90 (30%)</b>	<b>48 (16%)</b>	<b>48 (16%)</b>	<b>118 (39%)</b>
Average 5 year Graduation Rate	<b>81.5%</b>	70.5%	80.6%	87.6%	86.9%
Passed High School Standardized Test-Reading	<b>82.4%</b>	76.6%	81.3%	85.6%	85.9%
Passed High School End-of-Course Exam-Math- Yr 1	<b>72.7%</b>	56.7%	70.1%	76.6%	79.4%
Passed High School End-of-Course Exam-Math- Yr 2	<b>81.3%</b>	76.5%	79.3%	82.3%	84.0%

*All relationships shown in this table are statistically significant – ANOVA,  $p < .01$ .*

## Library Quality and High School Achievement: Controlling for School Size

The relationship between library services and school performance is complicated by the following: larger high schools are more likely than smaller schools to have CTLs on staff, and larger schools are also more likely to have higher average test scores and higher graduation rates. [Table 7](#) (below) illustrates this clearly: The average LQS score for schools with enrollment sizes of at least 1,201 was 29.1 out of 35, compared to 11.8 for schools with enrollments of fewer than 200 students. Likewise, larger enrollments are associated with better performance on all four of the academic achievement indicators. For this reason it is important to separate the relationship between library quality (LQS) and high school outcomes from the mediating effect of school size.

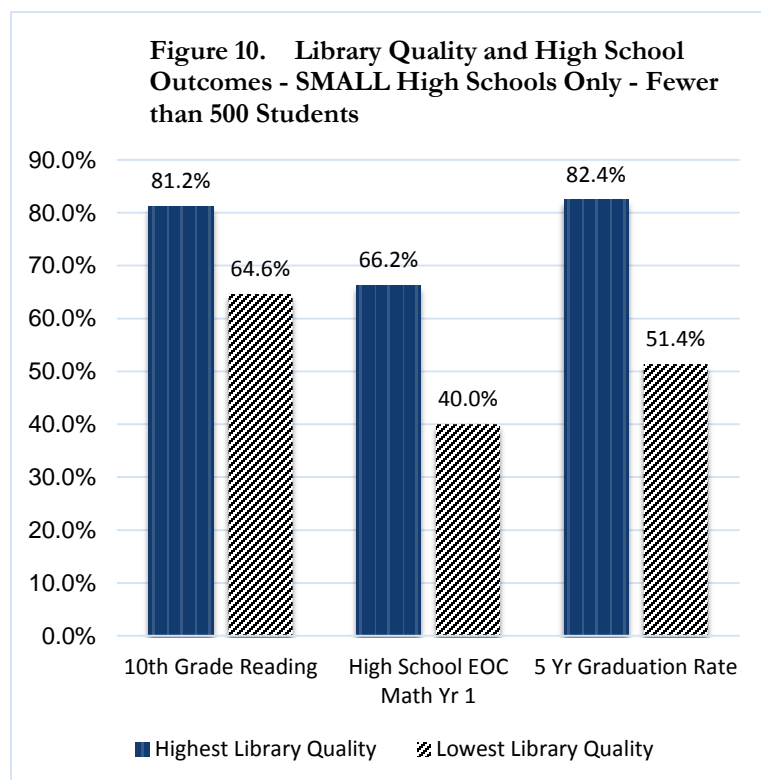
<sup>5</sup> The ranking system used here was based on the range of LQS scores for this particular group, not on a percentile rank, per se.

**Table 7. Relationship between High School Enrollment, Library Quality, and School Performance**

HIGH SCHOOL SIZE AND ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE	ALL	<200	201 to 500	501 to 800	801 to 1200	1,201 or more
<b>Approximate total in each category</b>	<b>304</b>	<b>50</b>	<b>76</b>	<b>26</b>	<b>41</b>	<b>111</b>
• Average LQS	<b>22.6</b>	11.8	17.3	22.9	28.0	29.1
• Passed High School reading	<b>82.4%</b>	74.9%	77.85	88.1%	84.8%	86.5%
• Passed High School EOC math – Year 1	<b>72.7%</b>	43.9%	63.3%	75.6%	78.1%	80.3%
• Passed High School EOC math – Year 2	<b>81.3%</b>	72.7%	75.75%	85.6%	85.0%	84.2%
• Average 5 year graduation rate, 2012/13	<b>81.5%</b>	66.7%	74.9%	90.6%	85.8%	88.0%

We controlled for school size by examining the relationships between LQS and achievement indicators within school enrollment categories. The relatively small number of schools within each enrollment category made it difficult to achieve statistical significance; however, there were important descriptive patterns that library quality is related to school achievement regardless of school size.

The high schools were divided into the following categories based on enrollment: less than 500 students (with 126 schools, total); 500 to 1,200 students (67 schools, total) and 1,201 or more students (111 schools). Within each of these three categories, the schools were distributed into 4 groups according to the LQS score relative to other schools of the same size.



Virtually all of the large schools (over 1,200 students) had high library quality, and there were relatively few schools that fell into the “medium” enrollment category. Because of these factors, it was not possible to detect a relationship between library quality and achievement in large or medium-size high schools in the present study.

However, there was enough variability with the smaller schools to demonstrate that for schools with enrollments of less than 500, higher library quality is associated with high achievement on all four high school achievement indicators included here (see [Table 8](#)). Figure 10 compares average reading and math scores and 5-year graduation between small schools in the highest quartile on

LQS with small schools in the lowest quartile. The results are clear and significant: Small schools with quality libraries perform better on academic indicators than do small schools with poor-quality libraries.

These results are important because overall, smaller high schools have much lower LQS scores compared to larger high schools and much lower student achievement levels as well. However, small schools with better library quality performed better than small schools with lower library quality on all four high school achievement indicators.

**Table 8. Library Quality Score and High School Achievement Indicators, High Schools with Enrollments of 500 or Fewer.**

	ALL	Low LQS (1 or 2)	Fair- LQS (8-15)	Fair +LQS (16-22)	High LQS (23 or more)
<b>Approximate total in each category</b>	<b>126</b>	<b>22</b>	<b>34</b>	<b>51</b>	<b>19</b>
• Passed High School reading	76.7%	64.6%	78.9%	78.5%	81.2%
• Passed High School EOC math – Year 1	58.3%	40.0%	55.3%	63.9%	66.2%
• Passed High School EOC math – Year 2	75.0%	64.1%	75.2%	77.3%	74.4%
• Average 5 year graduation rate, 2012/13	72.0%	51.4%	76.7%	74.4%	82.4%

*\*All significant except EOC math year 1 (ANOVA,  $p < .01$ )*

### Library Quality and High School Achievement: Controlling for Student Income

In general, schools with higher proportions of students living in poverty have correspondingly lower scores on library quality (Table 9). The 304 high schools included here were divided into four groups according to the percentage of students eligible for Free or Reduced Price Lunch (FRPL), used here as a proxy for the income level. As Table 9 shows, as the income level of student body goes up (i.e, proportion of FRPL goes down) so do test scores, graduation rates, and Library Quality scores, in a clear and consistent pattern. This creates an intriguing question when interpreting our results: Is library quality positively associated with high school achievement only because both are associated with student income level?

**Table 9: High School Achievement and Library Quality in Relation to Student Income**

FRPL status and ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE	ALL	71+ % FRPL	51 to 70% FRPL	31 to 50% FRPL	0 to 30% FRPL
<b>Approximate total in each category</b>	<b>304</b>	<b>39</b>	<b>66</b>	<b>112</b>	<b>85</b>
• Average LQS	22.6	19.0%	21.1%	23.2%	25.0%
• Passed High School reading	82.4%	67.5%	76.9%	84.4%	90.9%
• Passed High School EOC math – Year 1	72.7%	55.2%	64.1%	74.2%	85.2%
• Passed High School EOC math – Year 2	81.3%	62.9%	75.8%	82.6%	90.1%
• Average 5 year graduation rate, 2012/13	81.5%	70.4%	74.2%	85.0%	89.7%

Combining two highest FRPL categories into one (50+ FRPL), was sufficient to obtain statistically significant results for the relationship between library quality (LQS) and high school outcomes



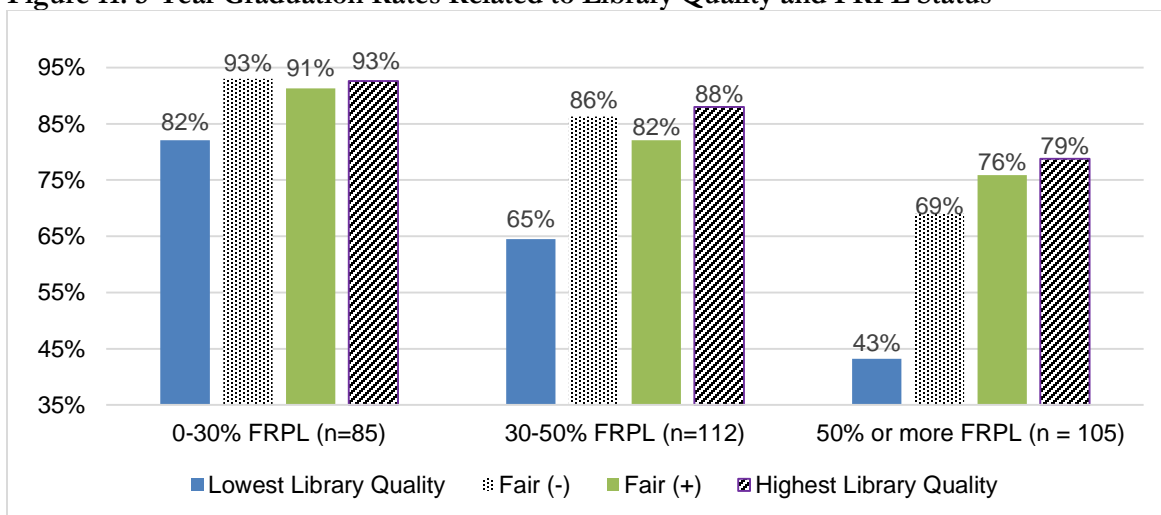
within each category of FRPL. As [Table 10](#) shows, even controlling for income represented by FRPL, graduation rates and test scores are significantly higher in schools with high quality libraries.

**Table 10. High school Achievement and Library Quality (LQS ranking), Controlling for Student Income (FRPL status) \*All ANOVA results sig p <.01.**

	ALL	Low Library Quality	Fair-Library quality	Fair +Library Quality	High Library Quality
<b>0-30% FRPL</b>	<b>85</b>	<b>25</b>	<b>26</b>	<b>22</b>	<b>12</b>
• 5-year high school graduation rate*	89.7%	82.1%	93.0%	91.3%	92.6%
• Passed High School reading*	90.9%	88.0%	92.2%	91.6%	92.6%
• Passed High School EOC math – Year 1*	85.5%	77.0%	88.2%	88.2%	86.9%
<b>30-50% FRPL</b>	<b>112</b>	<b>7</b>	<b>13</b>	<b>24</b>	<b>68</b>
• 5-year high school graduation rate*	85.0%	64.5%	86.3%	82.1%	88.0%
• Passed High School reading*	84.4%	71.9%	81.8%	84.6%	86.2%
• Passed High School EOC math – Year 1*	74.2%	52.8%	69.4%	69.8%	78.0%
<b>50-100% FRPL</b>	<b>105</b>	<b>12</b>	<b>15</b>	<b>32</b>	<b>46</b>
• 5-year high school graduation rate*	72.8%	43.2%	69.0%	75.9%	78.8%
• Passed High School reading*	73.4%	56.0%	70.9%	75.6%	76.4%
• Passed High School EOC math – Year 1*	60.7%	33.0%	45.4%	63.6%	67.3%

[Figure 11](#) (below) presents the relationship between 5-year graduation rates and library quality while controlling for FRPL status. While library quality as measured by the LQS is correlated to high school graduation rates regardless of student poverty level, the effect is noticeably greater in the schools with higher rates of poverty. There is a striking positive relationship between library quality and graduation rates among schools with 50 percent or higher FRPL eligibility; particularly in comparison to schools with the lowest rates of poverty. These findings clearly demonstrate that, while high-poverty schools have lower graduation rates overall than do low-poverty schools, this gap is not inevitable. A key factor distinguishing high-performing high-poverty schools from low-performing high-poverty schools is a quality library program.

**Figure 11: 5-Year Graduation Rates Related to Library Quality and FRPL Status**



## Library Services, Elementary and Middle School Achievement

All responding schools (whether elementary, middle or “other”) that reported standardized math and reading test scores for 4<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grades were included in the present analysis. The choice of these particular outcomes meant that a few schools were left out of the outcomes analysis altogether, notably the few that did not go beyond the 3<sup>rd</sup> grade, and a few more that were 9<sup>th</sup> grade only. The resulting total was 1,155 elementary and middle schools included in this section.

Similar to the high school analysis, the Library Quality Scale (LQS) was used to categorize elementary and middle schools into four “quartiles”, from lowest to highest library quality based upon percentile rank (Table 11). All standardized test scores were significantly and positively related to library quality with the exception of 6<sup>th</sup> grade math, which approached but did not reach significance (see Appendix C for more information).

**Table 11: Relationship Between Overall Quartile Rank Library Quality Score (LQS) out of 35, and Standardized Reading and Math Scores from the 4<sup>th</sup> through 8<sup>th</sup> grade**

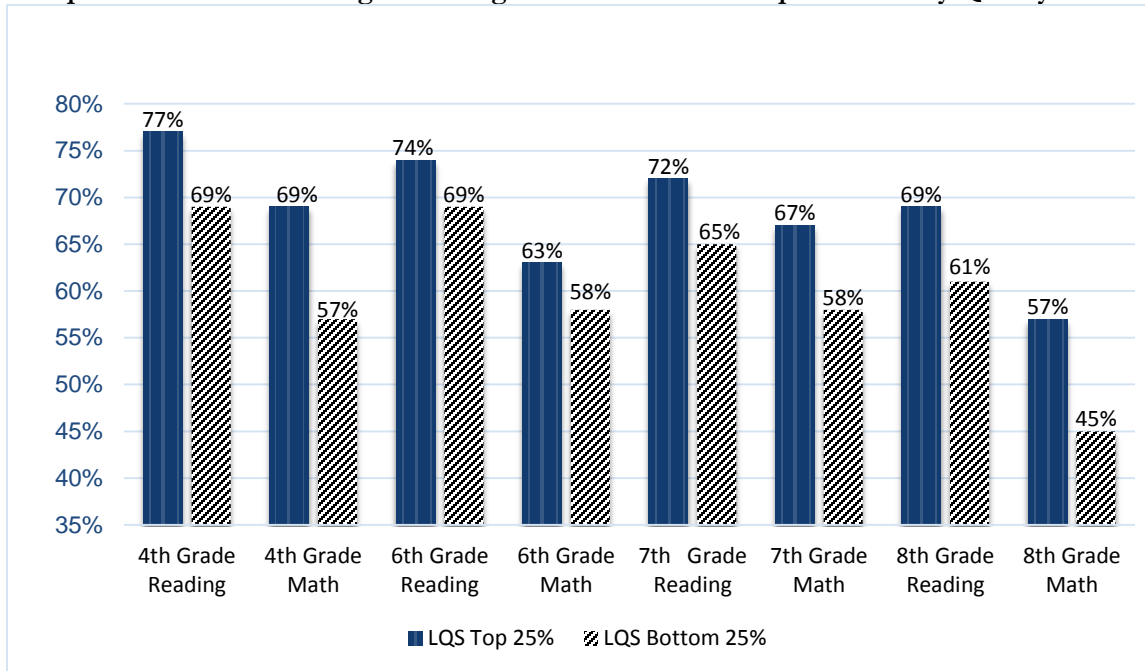
*\*except for first row, all percentages refer to column totals*

ELEMENTARY AND MIDDLE SCHOOL ACHIEVEMENT INDICATORS	ALL	Lowest LQS	2 <sup>nd</sup> lowest LQS	2 <sup>nd</sup> highest LQS	Highest LQS
<b>TOTAL</b>	<b>1,155</b>	264 (22.9%)	335 (29.0%)	326 (28.2%)	230 (19.9%)
Passed 4 <sup>th</sup> grade standardized reading *	<b>72.5%</b>	69.3%	71.4%	74.1%	76.8%
Passed 4 <sup>th</sup> grade standardized math*	<b>61.9%</b>	57.1%	59.6%	64.6%	68.8%
Passed 6 <sup>th</sup> grade standardized reading *	<b>72.1%</b>	69.0%	71.6%	73.4%	74.4%
Passed 6 <sup>th</sup> grade standardized math	<b>61.1%</b>	58.1%	61.0%	62.4%	63.0%
Passed 7 <sup>th</sup> grade standardized reading*	<b>68.7%</b>	64.7%	67.7%	69.6%	71.7%
Passed 7 <sup>th</sup> grade standardized math*	<b>63.8%</b>	58.2%	62.6%	65.6%	66.9%
Passed 8 <sup>th</sup> grade standardized reading *	<b>66.2%</b>	60.8%	65.8%	67.8%	68.9%
Passed 8 <sup>th</sup> grade standardized math*	<b>52.8%</b>	45.1%	51.5%	55.3%	56.9%

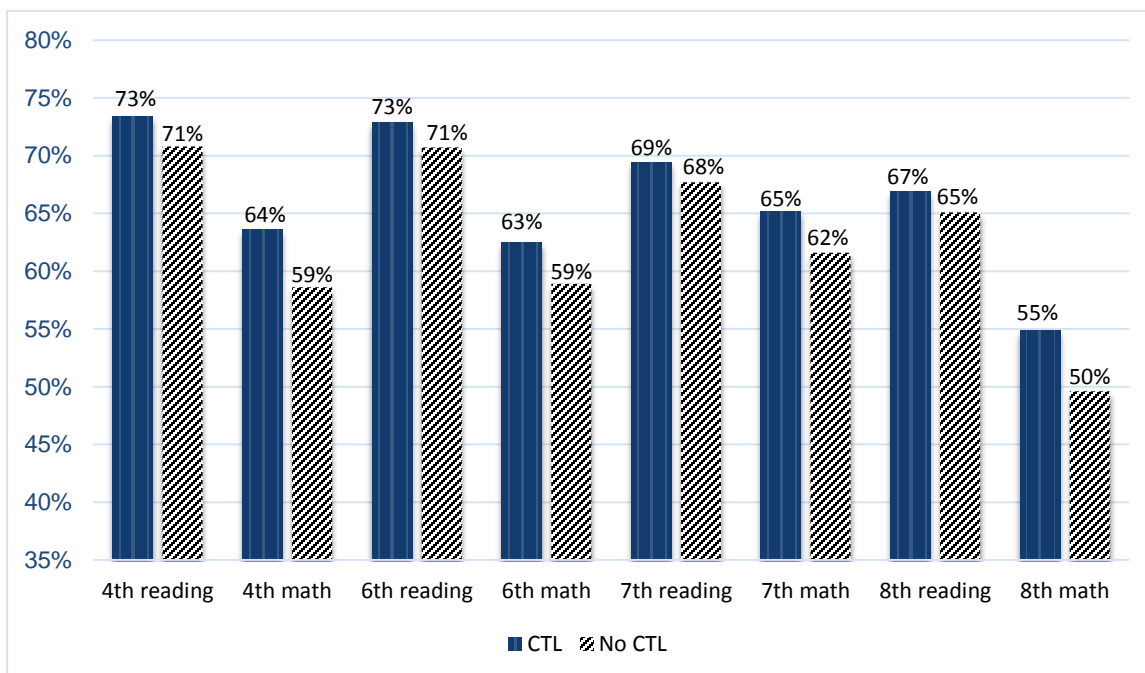
The presence of a CTL on staff was also significantly related to most of the elementary and middle school outcomes, with the exception of 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> grade reading (Appendix C). While average scores were always higher in schools with CTLs on staff, these differences were not quite as extreme in the aggregate as they were for high schools, and so not all differences reached statistical significance.

Figure 12 compares standardized reading and math scores from grades 4 through 8 between elementary and middle schools who scored in the top 25 percent on library quality (the LQS) and those who scored in the bottom 25 percent. Higher library quality is associated with higher test scores in all cases, and the differences were statistically significant for all but two of the pairs. The same pattern emerges when comparing the same test scores in schools with and without CTLs on staff, although the differences are not always as extreme (see Figure 13).

**Figure 12: Standardized Test Scores from 4<sup>th</sup> through 8<sup>th</sup> grade: Schools Scoring at the Lowest Level Compared to Schools Scoring at the Highest Level of the Composite Library Quality Scale:**



**Figure 13. Average Standardized Test Scores: Elementary and Middle Schools with and without CTLs**



## Library Quality, Elementary/Middle School Achievement and School Size

As with the high school cohort, middle and elementary schools with larger enrollment sizes had scored significantly higher on the LQS, indicating better quality libraries. School size was also positively and significantly related to five of the eight standardized test scores used as indicators of school achievement levels (see [Table 12](#), below).

**Table 12. Relationship between School Size, Library Quality, and School Performance**

SCHOOL SIZE AND ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE	ALL	<200	200 to 350	351 to 500	501 to 650	651 to 800	801 or more
<b>Approximate total in each category</b>	<b>1,155</b>	<b>75</b>	<b>174</b>	<b>363</b>	<b>330</b>	<b>135</b>	<b>76</b>
Average Survey Composite Score *	<b>22.3</b>	14.7	19.4	21.7	24.2	25.1	25.5
4 <sup>th</sup> grade standardized reading *	72.5%	67.6%	70.1%	72.4%	73.9%	75.2%	79.6%
4 <sup>th</sup> grade standardized math*	61.9%	53.7%	56.2%	61.1%	65.4%	68.3%	69.9%
6 <sup>th</sup> grade standardized reading *	72.1%	64.9%	70.8%	72.8%	73.7%	71.0%	74.7%
6 <sup>th</sup> grade standardized math	61.1%	56.8%	57.9%	61.4%	63.3%	60.9%	62.0%
7 <sup>th</sup> grade standardized reading	68.8%	65.4%	65.6%	67.8%	70.3%	68.9%	71.4%
7 <sup>th</sup> grade standardized math	63.8%	62.1%	59.2%	62.8%	64.7%	64.0%	67.5%
8 <sup>th</sup> grade standardized reading *	66.3%	59.6%	63.4%	66.9%	66.4%	66.7%	70.5%
8 <sup>th</sup> grade standardized math*	52.9%	46.9%	45.2%	51.8%	52.6%	54.9%	60.0%

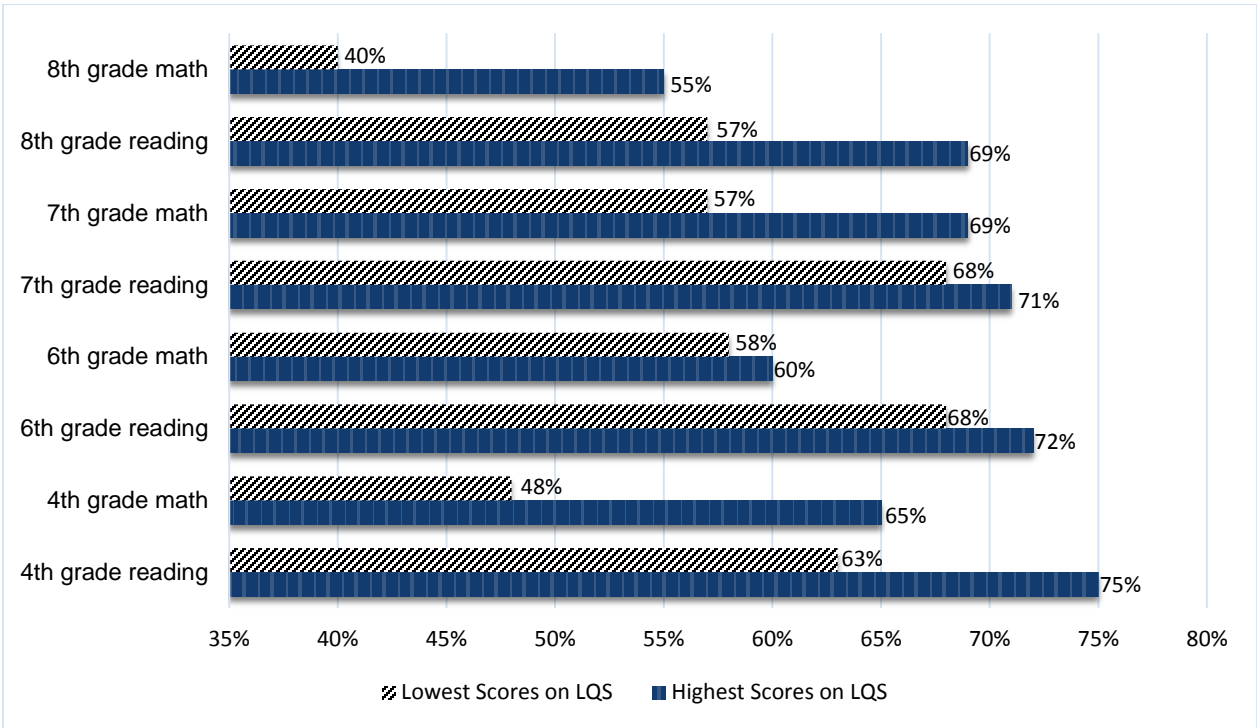
\*an Asterisk indicates a statistically significant relationship between school size and the corresponding test score.

Library quality is positively related to test scores for elementary and middle schools regardless of school size. [Figures 14](#) (next page) compares standardized test success rates between students in small schools with the highest library quality and those in small schools with the lowest library quality. Seventy-five percent of students in small schools with the highest quality libraries passed the 4<sup>th</sup> grade reading test compared to 63 percent of those in low quality libraries. The difference were equally compelling for all of the reported standardized tests.

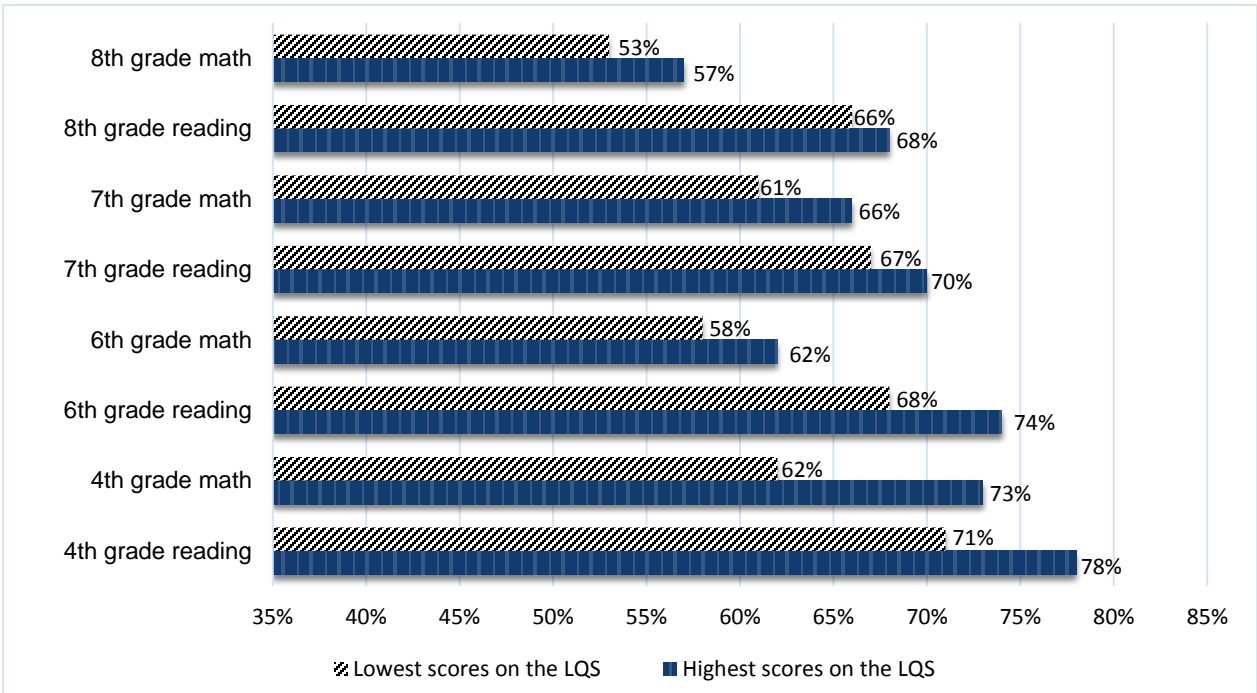
[Figure 15](#) presents similar comparison for school with higher enrollments. In this case the differences related to library quality are smaller but still compelling, especially for math scores. These findings suggest that the relationship between library quality and student achievement cannot be explained away by the separate correlation of both factors with school size, and that smaller schools in particular benefit from quality libraries.

It was not possible to isolate the relationship between library quality and test scores from the possible confounding influence of Free or Reduced Price Lunch status for elementary and middle school students (see [Appendix C](#) for a descriptive table). One possible explanation is that while LQS scores were higher in schools with low FRPL percentages, these differences were relatively small and significant, meaning that among elementary and middle schools at least, FRPL status is not strongly related to library quality. For the purposes of this study, we can nullify income level as indicated by FRPL status as a possible explanation for the relationship between library services and student performance in elementary and middle schools.

**Figures 14. Library Quality Score and Standardized Test Scores, Elementary and Middle Schools with Fewer than 350 Students**



**Figures 15. Library Quality Score and Standardized Test Scores: Elementary and Middle Schools with 600 or more Students**



## Access to Quality Libraries in Public Schools in Washington State

Quality public school libraries as indicated by a paid CTL on staff are unequally distributed across the state. Furthermore, students who are least likely to have access to a quality library are disproportionately more likely to face poverty and other risk factors known to adversely impact student achievement. As shown in [Table 13](#) and discussed previously, larger schools are more likely to have quality libraries and CTLs on staff, as are schools with lower student poverty rates as indicated by the proportion of students eligible for Free or Reduced Price Lunch (FRPL). Geographic location is a key variable that will be used to demonstrate that schools in rural counties and smaller districts are less likely to have access to quality libraries compared to those in more populated areas.

**Table 13. Demographic Characteristics of Schools with and without CTLs on Staff**

COUNTY, DISTRICT AND SCHOOL VARIABLES	ALL	NO CTL	CTL
<b>TOTAL SURVEY RESPONSE RATE</b>	1,486	530 (35.6%)	956 (64.3%)
Average school enrollment 2013	572	400	666
Average district enrollment 2013	14,026	7,861	17,138
Percent for Free or Reduced Price Lunch (FRPL) per school	47.8%	51.1%	45.9%
Five-year county-level SNAP (Basic Food) rate per 100 persons	18.1	19.8	17.2
Five-year county-level unemployment rate per 100 persons	8.5	8.9	8.2
Five-year county-level child abuse/neglect rate per 1,000	33.3	36.3	31.6

*\*All reported differences are sig t-test  $p < .01$*

Smaller schools and schools in smaller school districts are less likely to have CTLs on staff, as are schools with higher rates of students eligible for FRPL. However, library quality as reflected in the presence of a paid CTL is also a function of certain characteristics of the larger community. Schools with no CTLs on staff are disproportionately likely to be located in counties with higher rates of economic need as indicated by SNAP (Basic Food) rates, higher unemployment rates, and higher levels of child abuse or neglect (Barga, et al, 2015) (see [Table 13](#)). The next section will explore the relationship between these factors and geographic location -- with implications for the equitable distribution of educational resources across the state.

### Geographic Setting

#### Overview

The schools in the study were categorized geographically according to a classification established and attached to each school building in Washington State by the Education Research and Data Center (ERDC, 2010). The schools in the present analysis were each assigned a geographic designation based on locale codes used by the National Center for Education Statistics (NCES). ERDC's classification reduced the original 12 NCES categories into 5 by combining the 12 NCES locale codes with locations inside or outside of a "Metropolitan Statistical Area" (MSA) as defined by the U.S. Census Bureau. [Appendix D](#) provides a brief description and several examples of schools that fall into each category. Counties were characterized according the Geographic Information Systems (GIS) in Washington State, with a rural/urban distinction and three levels

within each for a total of 6 categories (Barga, et al, 2015). [Table 14](#) (below) provides examples of school districts and counties that fall into each of these designated categories.

**Table 14: Examples of School Districts in Different Geographic Setting and County Categories**

\*Note: A single district may have schools that fall into different setting categories.

Geographic Setting	EXAMPLES OF SCHOOL DISTRICTS IN EACH SETTING
<b>Large Metro</b>	Seattle, Bellevue
<b>Metro Suburb</b>	Monroe, West Valley (Spokane), Fife, Federal Way
<b>Mid-Size</b>	Snohomish, Tumwater, Bellingham, Mount Vernon
<b>Urban Fringe</b>	Lakewood, Rochester, Zillah, Centralia, Vashon Island
Distant	Washtucna, Lake Chelan, Castle Rock, Aberdeen, Pullman
"Counties Like Us"	EXAMPLES OF COUNTIES IN EACH SETTING
<b>Urban A</b>	King County
<b>Urban B</b>	Pierce, Snohomish, Spokane
<b>Urban C</b>	Benton, Clark, Kitsap, Thurston, Whatcom, Yakima
<b>Rural A</b>	Ferry, Franklin, Grant, Klickitat, Okanogan, Pend Oreille, Skamania
<b>Rural B</b>	Adams, Asotin, Chelan, Columbia, Douglas, Garfield, Kittitas, Lincoln, Stevens, Walla Walla, Whitman
<b>Rural C</b>	Clallam, Cowlitz, Grays Harbor, Island, Jefferson, Lewis, Mason, Pacific, San Juan, Skagit, Wahkiakum

### Geographic Setting and Library Services

The Geographic Setting categories and "Counties Like Us" categories were combined in this instance to create a balance between county and district/school location characteristics. All schools in the study were divided into either urban (A, B, or C) or rural (A, B or C). Schools in rural counties were further divided into "distant" or "suburb, mid-size, urban fringe." Urban counties were divided into "large metro" and "distant, suburb, mid-size or urban fringe." Overlap exists, especially in the urban areas, but the main objective is to compare the rural distant schools with schools in more populated areas.

**Table 15. Relationship between School Location and Library Quality<sup>6</sup>**

LOCATION AND ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE	Rural County			Urban County	
	ALL	Distant	Suburb, Midsize or Urban Fringe	Distant, suburb, mid-size or fringe	Large Metro
<b>Approximate total in each category</b>	1,486	276	85	887	238
Average Survey Composite Score*	22.1	18.1	20.0	23.1	23.6
Percentage of schools with CTLs on staff*	64.3%	27.9%	51.8%	72.3%	81.5%
TOTAL ENROLLMENT 2013	842,871	92,074	43,573	561,806	145,418
NUMBER OF STUDENTS ATTENDING SCHOOLS WITH <u>NO CTL ON STAFF</u>	207,843	50,554	14,819	118,278	24,192
Percentage of students attending schools with no CTL on staff	24.7%	55.0%	34.0%	21.1%	16.6%

\*statistically significant  $p < .01$ .

[Table 15](#) (above) and [Figure 16](#) tell a clear story: library quality as measured by the LQS is significantly lower in rural areas, particularly rural distant areas, compared to urban locations. The

<sup>6</sup> The numbers reported here include only those schools that responded to the survey

percentage of responding schools with CTLs on staff is proportionate to population density: only 28 percent of schools in rural distant locations have CTLs on staff, compared to 82 percent of schools in large metro areas. According to the 2013/14 school enrollment statistics, 24.7 percent of public schools students across the state do not have access to a library staffed by a CTL. In rural distant locations, the percentage is 55%, and in other rural locations the percentage is 34%. **This translates to a total of 65,373 students in rural counties alone who lack access to quality libraries.**

**Figure 16: Geographical Location and Access to Quality Library Services**

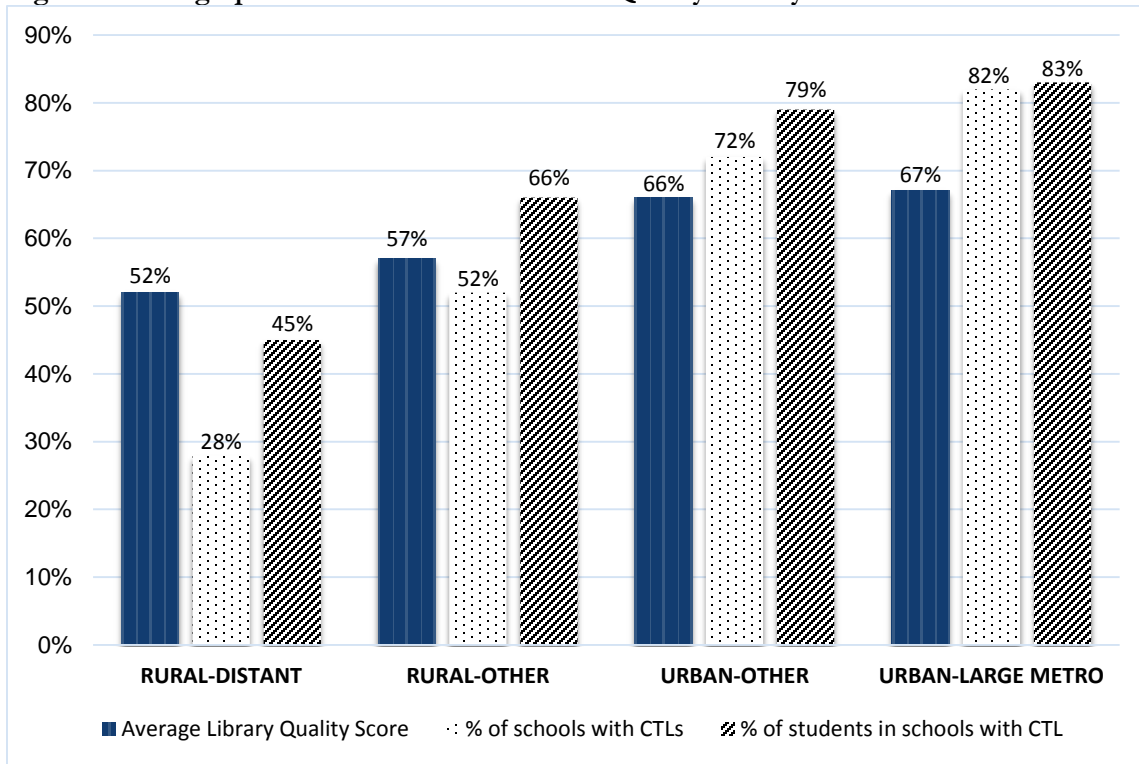
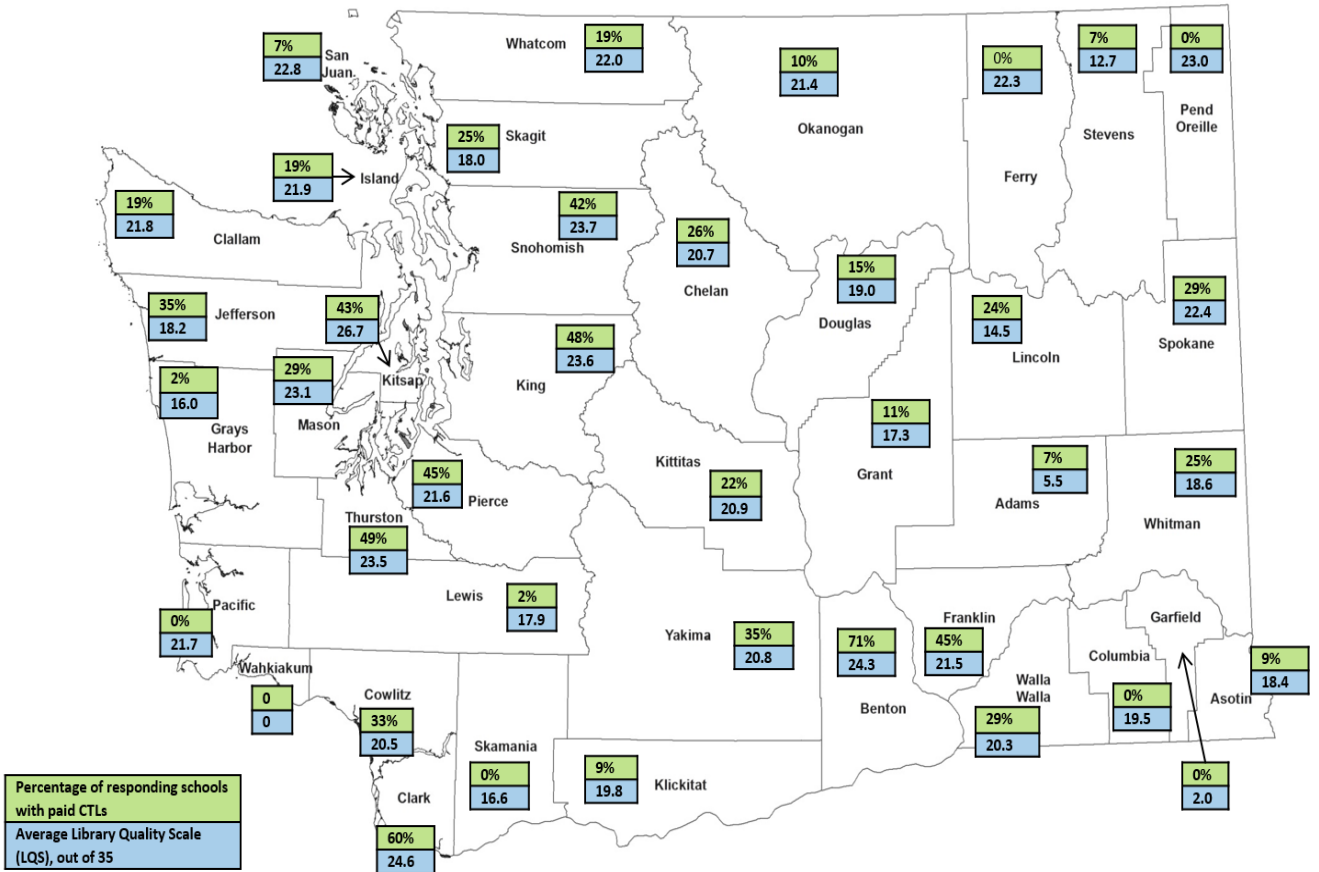


Figure 17 provides further context regarding access to quality library services for those familiar with Washington State and its demographics. The boxes represent the combined LQS and CTL statistics for all schools and school districts in each county combined. The top figure (light green) is the percentage of responding schools who reported having a CTL on staff out of the estimated total of all schools in a particular district (not just those that responded to the survey). The district averages were then averaged for the county as a whole. The bottom figure (light blue) is the average Library Quality Score (LQS) for all of the schools in a given county.

The differences in the percentage of school libraries staffed by CTLs are striking, with county averages ranging from zero to well over 50 percent. The average Library Quality Score likewise varies across the counties and correlates fairly closely with the number of CTLs on staff. Tables in Appendix D present a more detailed picture of the library characteristics in each county.



Figure 17. Percentage of Responding Schools with Certified Teacher-Librarians on Staff and average Library Quality Score (LQS), by County.



\*The percentages of CTLs only represented those that responded to the survey.

## Discussion and Implications

---

The results of the present study, while specific to Washington state, also align well with those of previous school library impact studies. Schools with a CTL on staff perform better on objective indicators of library quality -- indicating that a certified teacher-librarian is essential to the comprehensive delivery of a school library program. Libraries staffed by CTLs are more accessible to students, boast better print collections and more advanced technology, and provide access to the latest online resources, both in school and from home via remote access.

The value-added of CTLs is seen in their contributions to the overall curriculum. CTLs are instrumental in developing and teaching an up-to-date information literacy curriculum, as evidenced by the correlation between an on-site CTL and self-reports of information literacy curriculum being taught. CTLs spend far more of their time than non-professional librarians in providing formal instruction to students. CTLs teach important information literacy skills that are, in most cases, not taught at all in schools without CTLs. These important information and ELA literacy skills provide the foundation for ensuring that students are career and college ready. These skills prepare students for the rigorous research required for college-level work and provide them with an understanding of how to find and use information effectively in the workforce. A school staffed with a CTL can equitably provide these important instructional offerings to every student. For example, in the school library setting, CTLs can teach these skills in a 3-4 or more year sequential format to build toward information fluency.

The contributions of CTLs and the importance of a quality library program are also reflected in strong, positive correlations with student achievement. Schools with CTLs on staff have higher 5-year graduation rates and higher percentages of students passing standardized exams. Other indicators of library quality are positively correlated with student achievement as well. Furthermore, the relationship between library quality and student achievement remains strong even when controlling for school size and student income (as indicated by the proportion of students eligible for free or reduced price lunch). While larger schools were much more likely than smaller schools to employ a CTL, small schools that did employ a CTL significantly outperformed small schools without a CTL on most student achievement indicators. Finally, schools with the highest rates of free or reduced price lunch show the most dramatic relationship between the presence or absence of a CTL and student achievement.

Schools with CTLs on staff have good quality libraries and higher student achievement levels. The relationship between a CTL and student achievement is particularly strong in smaller schools and in schools with higher rates of students living in poverty. **However, the very students that most clearly benefit from a quality library are also the least likely to have access to one.** Compared to schools with CTLs on staff, those without CTLs are not only smaller with higher rates of FRPL eligibility, they are also disproportionately likely to be located in counties with higher unemployment rates, higher levels of basic food (SNAP) eligibility, and higher rates of child abuse and/or neglect. Not surprisingly, smaller rural districts are far less likely than large metro areas to have CTLs on staff in public schools, and the variability in quality library services across the state is significant.

In closing the achievement gap and assuring that all students are prepared with the 21<sup>st</sup> century skills they need to succeed, school leaders and CTLs need to embrace this body of research and foster

school library programs that can make a difference in student learning. Districts and schools that support their library programs give their students a better chance to succeed.

### **Limitations of the Present Study and Recommendations for Future Research**

By necessity, the present study used a correlational design, making it impossible to establish causation. Furthermore, there was no information about how long the CTLs had been employed at the school. It is likely that changes take time, and so it would be useful to know how long a given staffing configuration had been in place. There was also no accurate way to verify the presence of a CTL in a school or district independent of self-report. Comparisons of the certification data available from OSPI were not always reflective of the self-report information, and so could not be used. Finally, other than the self-reported data which was approximate at best, there was no way to accurately determine the amount of money budgeted by each district for library services.

Future studies would benefit from a method to verify the actual number of CTLs in Washington districts and schools, so that non-responding schools could be included as well. Additionally, it would be important to study the relationship between the length of time a CTL has been employed and the quality of library services provided -- since improvements such as those described in this study are likely to take time to realize.

### **Policy implications**

- Funding for certified teacher-librarians is uneven among districts and should be a staffing-funding priority to improve student success, graduation rates, and information literacy instruction in Washington State.
- Efforts at addressing risk factors affecting student achievement should support staffing of certified teacher-librarians as part of efforts to address the opportunity gap in Washington schools.
- The impact of a high quality school library with a certified teacher-librarian should be considered part of the funding priorities for improving reading and literacy skills for our state's youngest students.
- The individualized learning resources, research skills, and access to information and resources that can be provided through a school library with a certified teacher-librarian should be a key priority in helping to ensure struggling high school students are able to obtain a high school diploma.
- Better reporting of library staffing and funding will improve the state's ability to document the impact of school library and information technology programs on student achievement.

## References

---

- ERDC (2010) Geographic Setting of Schools in Washington State: A Classification based on urban-centric location. Washington State Education Research and Data Center. ERDC Research Brief 2010-04. December, 2010. [www.erd.c.wa.gov](http://www.erd.c.wa.gov).
- Barga, V., Kohlenberg, E., Ferguson, D. & Sharkova, I.V. (2015). Risk and Protection Profiles for Substance Abuse Prevention Planning. Washington State Department of Social and Health Services Research and Data Analysis Division, Jan, 2015. 4.47.  
<https://www.dshs.wa.gov/sesa/rda/research-reports/risk-and-protection-profile-substance-abuse-prevention>
- Kachel, Debra E., and Graduates of LSC 5530 School Library Advocacy (2011). *School Library Impact Studies Project*. School Library Information & Technologies Department. Mansfield University. Mansfield, PA: Mansfield University. <http://library.mansfield.edu/impact.asp>
- Lance, K.C., and Hofschire, L. (2012) *Change in School Librarian Staffing Linked with Change in CSAP Reading Performance, 2005 to 2011*. January 2012. *Library Research Services*. Web. 16 May 2013. <http://www.lrs.org/data-tools/school-libraries/impact-studies/>
- Office of Superintendent of Public Instruction (OSPI). Olympia, WA, 2012. Web. August 2013. <http://www.k12.wa.us/SAFS/>
- Pennsylvania State Board of Education (2011). *Pennsylvania School Library Study: Findings and Recommendations, 2011*. Web. 16 May 2013. <http://paschoollibraryproject.org/home>
- Todd, R.J., Gordon, C, and Lu, Y. (2011). *One Common Goal: Student Learning (Phase 2)*. New Brunswick, NJ: New Jersey Association of School Librarians, 2011. *The Center for International Scholarship in School Libraries Rutgers University*. Web. 16 May. 2013. [http://www.njasl.info/wp-content/NJ\\_study/2011\\_Phase2Report.pdf](http://www.njasl.info/wp-content/NJ_study/2011_Phase2Report.pdf)

### **Studies Included in the Mansfield “School Library Impact Studies Project” (Kachel et al, 2011), by State**

#### **AK**

Lance, Keith Curry, et al. *Information Empowered: The School Libraries as an Agent of Academic Achievement*. Rev. ed. Anchorage, AK: Alaska State Library, 2000. ERIC. Web. 15 Dec. 2010. <http://eric.ed.gov/PDFS/ED443445.pdf>

#### **CA1**

Farmer, Lesley. “Degree of Implementation of Library Media Programs and Student Achievement,” *Journal of Librarianship and Information Science* 38 (Mar. 2006): 21-32. Print.

**CA2**

Achterman, Douglas L. *Haves, Halves, and Have-Nots: School Libraries and Student Achievement in California*. Diss. University of North Texas, 2008. *UNT Digital Library*. Web. 15 Dec. 2010. <http://digital.library.unt.edu/ark:/67531/metadc9800/>

**CO1**

Lance, Keith Curry, Lynda Welborn, and Christine Hamilton-Pennell. *The Impact of School Library Media Centers on Academic Achievement*. Denver, CO: Colorado Dept. of Education, 1992. *ERIC*. Web. 15 Dec. 2010. <http://www.eric.ed.gov/PDFS/ED353989.pdf>

**CO2**

Lance, K.C., Rodney, M.J. and Christine Hamilton-Pennell (2010). "Executive Summary." *How School Libraries Help Kids Achieve Standards: The Second Colorado Study*. Spring, TX: Hi Willow Research and Publishing, 2000. 1-8. *Library Research Services*. Web. 15 Dec. 2010. <http://www.lrs.org/documents/lmcstudies/CO/execsumm.pdf>

**CO3**

Lance, Keith Curry, Briana Hovendick Francis, and Zeth Lietzau. *School Librarians Help Students Achieve Standards: The Third Colorado Study* (2010). *Library Research Services*. 2010. Web. 15 Dec. 2010. [http://www.lrs.org/documents/closer\\_look/CO3\\_2010\\_Closer\\_Look\\_Report.pdf](http://www.lrs.org/documents/closer_look/CO3_2010_Closer_Look_Report.pdf)

**DE**

Todd, Ross J. *Report on the Delaware School Library Survey*. Georgetown, DE: Governor's Task Force on School Libraries, 2005. *University of Delaware Library*. Web. 15 Dec. 2010. <http://www2.lib.udel.edu/taskforce/study.html>

**FL**

Baumbach, Donna J. *Making the Grade: The Status of School Library Media Centers in the Sunshine State and How They Contribute to Student Achievement*. Salt Lake City: Hi Willow Research and Publishing, 2003. Print. (available from LMC Source at <http://www.lmcsource.com>)

**IA**

Rodney, Marcia J., Keith Curry Lance, and Christine Hamilton-Pennell. *Make the Connection: Quality School Library Media Programs Impact Academic Achievement in Iowa*. Bettendorf, IA: Iowa Area Education Agencies, 2002. *Iowa Area Education Agencies*. Web. 15 Dec. 2010. [http://www.iowaareaonline.org/pages/uploaded\\_files/Make%20The%20Connection.pdf](http://www.iowaareaonline.org/pages/uploaded_files/Make%20The%20Connection.pdf)

**ID**

Lance, Keith Curry, Marcia J. Rodney, and Bill Schwarz. *The Idaho School Library Impact Study- 2009: How Idaho Librarians, Teachers, and Administrators Collaborate for Student Success*. Idaho Commission for Libraries. 2010. Web. 15 Dec. 2010. <http://libraries.idaho.gov/doc/idahoschool-library-impact-study-2009>

## IL

Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. *Powerful Libraries Make Powerful Learners: The Illinois Study*. Canton, IL: Illinois School Library Media Association, 2005. *Alliance Library System*. Web. 15 Dec. 2010.  
<http://www.alliancelibrarysystem.com/illinoisstudy/>

## IN

Lance, Keith Curry, Marcia J. Rodney, and Becky Russell. *How Students, Teachers, and Principals Benefit from Strong School Libraries: The Indiana Study-2007*. Indianapolis, IN: Association for Indiana Media Education, 2007. *Indiana Library Federation*. Web. 15 Dec. 2010.  
<http://www.ilfonline.org/units/aime-indiana-study-information>

## MA

Baughman, James. *School Libraries and MCAS Scores: Making the Connection*. Boston, MA: Simmons College, 2000. *Simmons College*. Web. 15 Dec. 2010.  
<http://web.simmons.edu/~baughman/mcas-school-libraries>

## MI

Rodney, Marcia J., Keith Curry Lance, and Christine Hamilton-Pennell. *The Impact of Michigan School Libraries on Academic Achievement: Kids Who Have Libraries Succeed*. Lansing, MI: Library of Michigan, 2003. *Library of Michigan*. Web. 15 Dec. 2010.  
[http://www.michigan.gov/documents/hal\\_lm\\_schllibstudy03\\_76626\\_7.pdf](http://www.michigan.gov/documents/hal_lm_schllibstudy03_76626_7.pdf)

## MN

Baxter, Susan J., and Ann Walker Smalley. *Check It Out! The Results of the School Library Media Census*. St. Paul, MN: Metronet, 2004. *Metronet Project*. Web. 15 Dec. 2010.  
[http://www.metrolibraries.net/res/pdfs/2004final\\_report.pdf](http://www.metrolibraries.net/res/pdfs/2004final_report.pdf)

## MO

Quantitative Resources, LLC, et al. *Show Me Connection: How School Library Media Center Services Impact Student Achievement*. Jefferson City, MO: Missouri State Library, 2003. *MO Department of Elementary and Secondary Education*. Web. 15 Dec. 2010.  
<http://dese.mo.gov/divimprove/curriculum/librarystudy/libraryresearch.pdf>

## NC

Burgin, Robert, and Paulette Brown Bracy. *An Essential Connection: How Quality School Library Media Programs Improve Student Achievement in North Carolina*. Spring, TX: Hi Willow Research and Publishing, 2003. *Library Research Services*. Web. 15 Dec. 2010.  
<http://www.lrs.org/documents/impact/NCSchoolStudy.pdf>

## NJ

Todd, Ross J, Carol Gordon, and Ya-Ling Lu. *One Common Goal: Student Learning (Phase 1)*. New Brunswick, NJ: New Jersey Association of School Librarians, 2010. *The Center for International Scholarship in School Libraries Rutgers University*. Web. 15 Dec. 2010.  
[http://cissl.rutgers.edu/docs/NJASL\\_Phase\\_1.pdf](http://cissl.rutgers.edu/docs/NJASL_Phase_1.pdf)

## NM

Lance, Keith Curry, Marcia J. Rodney, and Christie Hamilton-Pennell. *How School Librarians Improve Outcomes for Children: The New Mexico Study*. Santa Fe, NM: New Mexico State Library, 2002. Print. (available from LMC Source at <http://www.lmcsource.com>)

## NY

Small, Ruth V., Kathryn A. Shanahan, and Megan Stasak. "The Impact of New York's School Libraries on Student Achievement and Motivation: Phase III." *School Library Media Research* 13. Web. 26 Jan. 2011.  
[http://www.ala.org/ala/mgrps/divs/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume13/small\\_phase3.cfm/](http://www.ala.org/ala/mgrps/divs/aasl/aaslpubsandjournals/slmrb/slmrcontents/volume13/small_phase3.cfm/)

## OH

Todd, Ross J., and Carol C. Kuhlthau. *Student Learning Through Ohio School Libraries*. Columbus, OH: Ohio Educational Library Media Association, 2003. *Ohio Educational Media Association*. Web. 15 Dec. 2010. <http://www.oelma.org/OhioResearchStudy.htm>

## ON1

*School Libraries and Student Achievement in Ontario*. Toronto, ON: Ontario Library Association, 2006. *Ontario Library Association*. Web. 15 Dec. 2010.  
[http://www.accessola.com/data/6/rec\\_docs/137\\_eqao\\_pfe\\_study\\_2006.pdf](http://www.accessola.com/data/6/rec_docs/137_eqao_pfe_study_2006.pdf)

## ON2

Klinger, D. A., et al. *Exemplary School Libraries in Ontario*. Toronto, ON: Ontario Library Association, 2009. *Ontario Library Association*. Web. 15 Dec. 2010.  
[http://www.accessola.com/data/6/rec\\_docs/477\\_Exemplary\\_School\\_Libraries\\_in\\_Ontario\\_2009.pdf](http://www.accessola.com/data/6/rec_docs/477_Exemplary_School_Libraries_in_Ontario_2009.pdf)

## OR

Lance, Keith Curry, Marcia J. Rodney, and Christine Hamilton-Pennell. *Good Schools Have School Libraries: Oregon School Librarians Collaborate to Improve Academic Achievement*. Terrebonne, OR: Oregon Educational Media Association, 2001. Executive Summary. *Oregon Educational Media Association*. Web. 15 Dec. 2010.  
[http://oasl.info/Oregon\\_Study/OR\\_Study.htm](http://oasl.info/Oregon_Study/OR_Study.htm)

## PA

Lance, Keith Curry, Marcia J. Rodney, and Christine Pennell-Hamilton. *Measuring Up to Standards: The Impact of School Library Programs and Information Literacy in Pennsylvania Schools*. Greensburg, PA: Pennsylvania Citizens for Better Libraries, 2000. *Pennsylvania Department of Education*. Web. 15 Dec. 2010.  
[http://www.portal.state.pa.us/portal/server.pt/document/699821/measuring\\_up\\_to\\_standards\\_pdfqid+35951716&rank+1](http://www.portal.state.pa.us/portal/server.pt/document/699821/measuring_up_to_standards_pdfqid+35951716&rank+1)

## TX

Smith, Ester G. *Texas School Libraries: Standards, Resources, Services, and Students' Performance*. Austin, TX: Texas State Library and Archive Commission, 2001. *Texas State Library and Archives Commission*. Web. 15 Dec. 2010.  
<http://www.tsl.state.tx.us/ld/pubs/schlibsurvey/index.html>

## WI

Smith, Ester. *Student Learning Through Wisconsin School Library Media Centers: Case Study Report*. Madison, WI: Wisconsin Department of Public Instruction, 2006. <http://www.dpi.wi.gov/imt/lmsstudy.html>

## Washington State Legislative References

- **RCW 28A.320.240** – clearly defines school library media programs and teacher-librarians. The RCW deems school library programs as necessary to meet state mandated learning goals, essential academic learning requirements and high school graduation requirements.

*RCW 28A.310.240 -- (1) The purpose of this section is to identify quality criteria for school library media programs that support the student learning goals under RCW 28A.150.210, the essential academic learning requirements under RCW 28A.655.070, and high school graduation requirements adopted under RCW 28A.230.090.*

*(2) Every board of directors shall provide for the operation and stocking of such libraries as the board deems necessary for the proper education of the district's students or as otherwise required by law or rule of the superintendent of public instruction.*

*(3) "Teacher-librarian" means a certified teacher with a library media endorsement under rules adopted by the professional educator standards board.*

*(4) "School-library media program" means a school-based program that is staffed by a certificated teacher-librarian and provides a variety of resources that support student mastery of the essential academic learning requirements in all subject areas and the implementation of the district's school improvement plan.*

*(5) The teacher-librarian, through the school-library media program, shall collaborate as an instructional partner to help all students meet the content goals in all subject areas, and assist high school students completing the culminating project and high school and beyond plans required for graduation.*

- **RCW 28A.150.260** – modified in 2009 as part of ESHB 2261 to restructure the state's basic education program. ESHB 2261 created the prototype school model for establishing state funding allocations. This included not only technology and school library materials but also specifically included teacher-librarians in the staffing model upon which state funding is allocated.

*RCW 28A.150.260 -- The purpose of this section is to provide for the allocation of state funding that the legislature deems necessary to support school districts in offering the minimum instructional program of basic education under RCW 28A.150.220. ...*

*(5) The minimum allocation for each level of prototypical school shall include allocations for the following types of staff in addition to classroom teachers ...*

*... Teacher librarians, a function that includes information literacy, technology, and media to support school library media programs*



- **RCW 28A.150.260** – further modified in 2010 as part of SHB 2776 to specifically allocate the following FTE state allocation for teacher-librarian staffing and per student FTE dollar amounts for technology and library materials/other supplies:

	<i>Elementary (400 students)</i>	<i>Middle School (432 students)</i>	<i>High School (600 students)</i>
<i>T-L FTE</i>	<i>0.663</i>	<i>0.519</i>	<i>0.523</i>
<i>Technology</i>	<i>\$113.88</i>	<i>\$113.88</i>	<i>\$113.88</i>
<i>*Other materials Including library</i>	<i>\$259.39</i>	<i>\$259.39</i>	<i>\$259.39</i>

*\* This line item was included in the Materials, Supplies and Operating Costs (MSOC)*

- **RCW 28A.150.210** – modified in 2011 as part of SSB 5392 with the support of the state’s teacher-librarians to include technology literacy and fluency in the state’s basic education goals for all school programs. Technology literacy and fluency are mainstays in a school library media program.

*RCW 28A.150.210 – A basic education is an evolving program of instruction that is intended to provide students with the opportunity to become responsible and respectful global citizens, to contribute to their economic well-being and that of their families and communities, to explore and understand different perspectives, and to enjoy productive and satisfying lives. Additionally, the state of Washington intends to provide for a public school system that is able to evolve and adapt in order to better focus on strengthening the educational achievement of all students, which includes high expectations for all students and gives all students the opportunity to achieve personal and academic success. To these ends, the goals of each school district, with the involvement of parents and community members, shall be to provide opportunities for every student to develop the knowledge and skills essential to:...*

*(3) Think analytically, logically, and creatively, and to integrate technology literacy and fluency as well as different experiences and knowledge to form reasoned judgments and solve problems; ...*

- **RCW 28A.300.803** – created in 2012 as part of SHB 2337 to establish a library of openly licensed education resources to enable school district access to more affordable, modifiable resources using technology/internet based offerings. In developing the library of this course material, the Office of the Superintendent of Public Instruction was explicitly directed to get input from the state’s teacher-librarians.

*RCW 28A.300.803 -- (1)(a) Subject to availability of amounts appropriated for this specific purpose, the superintendent of public instruction shall take the lead in identifying and developing a library of openly licensed courseware aligned with the common core state standards and placed under an attribution license, registered by a nonprofit or for-profit organization with domain expertise in open courseware, that allows others to use, distribute, and create derivative works based upon the digital material, while still allowing the authors or creators to retain the copyright and to receive credit for their effort.*

*(b) During the course of identification and development of a library of openly licensed courseware, the superintendent: ...*

*(vi) Must include input from classroom practitioners, including teacher-librarians as defined by RCW 28A.320.240, in the results reported under subsection (2)(d) of this section.*

**Addendum:** Now, in 2013, the state budget is under court order to fund the provisions of ESHB 2261 per the *McCleary* decision. The first phase of this will include significant increases in the amount of money coming from the state for teachers and staffing (which should help ensure the minimum teacher-librarian allocations) and in the Materials, Supplies and Operating Costs (MSOC) which includes library materials.





## Washington State School Library Impact Study: Appendices

### List of Appendices

- APPENDIX A:** Washington State School Library and Information Technology Program Survey
- APPENDIX B:** Total Survey Responses, and Comparison of Responding Schools with and Without CTLs on Staff.
- APPENDIX C:** Survey Responses and Academic Achievement Indicators.
- APPENDIX D:** Geographic Descriptors and Categories



## APPENDIX A

### Washington State School Library and Information Technology Program Survey

---

**Only ONE survey should be submitted for EACH school building. What is the position of the person completing this survey for your school?\***

- Certified teacher librarian
- Teacher certified in subject other than library
- Administrative
- Para-professional / non-certified staff
- Volunteer
- Other: \_\_\_\_\_

**What grade levels are served in your building?**

P  K  1  2  3  4  5  6  7  8  9  10  11  12

**Approximately how many students are served in your school building?**

- <100
- 101-500
- 501-1000
- 1001-2000
- 2001+

**Does your school building have a designated school library facility with print and/or electronic/digital resources for students and staff to borrow and use?\***

- Yes
  - No
- 

### Staffing

**How many paid faculty/staff members are assigned to the library facility in your school building?**

	Full-time	Part-time
Certified teacher-librarian	_____	_____
Certified teacher	_____	_____
Para-professional / support staff	_____	_____
Other	_____	_____

**The head/supervising librarian is assigned to this building:**

- 1.0 FTE
- 0.8 FTE
- 0.5 FTE
- < 0.5 FTE

***This year's professional staffing of certified teacher librarian(s) reflects:***

- An increase over last year
- Same as last year
- A decrease from last year
- Unsure

***The average number of unpaid adult volunteers who work in this school library (specifically as helpers for the library program) in a typical week is:***

- 1-5 adult volunteers
- 6-10 adult volunteers
- 11-15 adult volunteers
- 16 or more volunteers
- No adult volunteers

***Our school library has partnerships with:***

- local business
- local public library
- book donation organization
- reading tutor and support organization
- technology educational support
- other groups or institutions

---

**Hours**

***What is the average number of hours per week the school library is open and staffed for teachers and students to use?***

- 1 to 10 hours
- 11 to 20 hours
- 21 to 30 hours
- 31 to 40 hours
- 40+ hours

***When is your school library facility typically open for student use?***

- During school/class time
- Before school
- During lunch periods
- After school

***Approximately how many school days per school year is the library in your building closed for use as a testing space or other use not related specifically to the library program?***

- 0 days
- 1 to 5 days
- 6 to 10 days
- 11 to 20 days
- 20+ days

## Inventory

**What is the approximate number of books in print format in your school's library?**

- Less than 1,000
- 1,001 to 3,000
- 3,001 to 5,000
- 5,001 to 10,000
- 10,001+

**What is the approximate total circulation number per school year in your school's library?**

- Less than 1,000
- 1,001-3,000
- 3,001-5,000
- 5,001-10,000
- 10,001-20,000
- 20,001+

***Fiction print resources (books and magazines) in your school library meet the overall needs of students and faculty in terms of the following attributes:***

	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>Somewhat disagree</b>	<b>Strongly disagree</b>
Currency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quantity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

***Non-fiction print resources (books and magazines) in your school library meet the overall needs of students and faculty in terms of the following attributes:***

	<b>Strongly agree</b>	<b>Somewhat agree</b>	<b>Somewhat disagree</b>	<b>Strongly disagree</b>
Currency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quantity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**Other than the school's online library catalog, how many licensed, web-based, informational databases can students access via paid school subscriptions?**

- No additional paid subscription databases
- 1 to 3
- 4 to 5
- 6 to 10
- 11 or more

**Does your school library have an online catalog that students, teachers, and parents can access remotely from outside the school building via internet?**

- Yes
- No

---

## **Technology**

**Considering the school district's filtering software, are students able to access and utilize web-based productivity/collaboration tools (e.g., wikis, blogs, Google Docs, or similar tools) via the school network?**

- Yes with unlimited access
- Yes with limited access
- No access

**Does your school library provide eBook readers/portable devices for students to checkout?**

- Yes
- No

**How many computers are housed in and available in your school library for direct instruction and/or student use during library programs?**

- None
- 1-5
- 6-10
- 11-15
- 16-20
- 21-30
- 31-50
- 51+

**When are students allowed to bring their own computers/devices to the library?**

- For personal use
  - During library programs
  - For direct instruction
  - Not allowed
-

## Budget

**What is the approximate amount budgeted/spent per student by the school and/or district for instructional resources in your school library?**

	Budget/Student
2013-2014	_____
2012-2013	_____
2011-2012	_____

**In the past three years, how much funding did your school library receive (or is likely to receive) from non-district sources, such as PTSA/PTA, grants, foundations, or others?**

	Non-District Funding
2013-2014	_____
2012-2013	_____
2011-2012	_____

---

## Scheduling

**What type of scheduling is used in your school library?**

- Fixed (regularly scheduled classes)
- Flexible (schedule varies from week to week)
- Combination of fixed and flexible

**In a typical week, what is the approximate number of group or class visits to your school's library for ANY reason? (e.g., number of groups, not individuals)**

- 1-10 groups
- 11-15 groups
- 16-20 groups
- 21-30 groups
- 31-40 groups
- 41+ groups

***In a typical week, how many of the approximate number of groups which visit the school's library are in the library for purposes unrelated to the library or its collection? (e.g., number of classes or groups, not number of individuals)***

- 1-10 groups
- 11-15 groups
- 16-20 groups
- 21-30 groups
- 31-40 groups
- 41+ groups

***In a typical day, approximately how many individual students visit the school library to use library resources who are not part of a class or group?***

- 0-20 students
- 21-50 students
- 51-75 students
- 76-100 students
- 101-150 students
- 151+ students

---

## **Curriculum and Instruction**

***How would you best describe the library curriculum in your school?***

- The library curriculum used in this building is part of a grade-leveled or sequenced, board and/or district-approved information literacy curriculum that was written or revised in the past five years.
- The library curriculum used in this building is part of a grade-leveled or sequenced, board and/or district-approved information literacy curriculum that was written or last revised more than five years ago.
- The library curriculum used in this building was written in the past five years, but is not part of a sequenced written information literacy curriculum.
- The library curriculum used in this building was written more than five years ago and is not part of a sequenced written information literacy curriculum.
- The library delivers a set of objectives which were created and are delivered in collaboration with teachers and their curriculum.
- The library in this building does not utilize a written or specified curriculum.

***On average, how many hours per week does the librarian (or librarians) teach in a classroom outside of the library?***

- 0 hours
- 1-2 hours
- 3-4 hours
- 5-9 hours
- 10+ hours

***In terms of the weekly schedule of the head or supervising librarian, please describe in percentages how much time is spent each week in the following activities (percentages should total to 100%).***

	<b>% time/week</b>
Formal instruction of information literacy skills	_____ _____
Informal instruction of information literacy skills (such as individuals or groups)	_____ _____
Collection/library management	_____ _____
Reading support or reading advocacy	_____ _____
Collaborative planning and/or curriculum work	_____ _____
Duties outside of the school library	_____ _____

***Who in your school building is responsible for teaching the following skills?***

	<b>School librarian</b>	<b>Classroom teachers</b>	<b>Neither/Not taught</b>
How to locate and use library and online resources	[ ]	[ ]	[ ]
How to evaluate and make best-fit reading choices	[ ]	[ ]	[ ]
Understanding genres and skills needed for using different types of information	[ ]	[ ]	[ ]
Information literacy/ research cycles	[ ]	[ ]	[ ]
How to use databases for online research	[ ]	[ ]	[ ]
How to search efficiently online	[ ]	[ ]	[ ]

How and why to cite sources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
How to evaluate and use online resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet safety / digital citizenship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
College and career readiness skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
One-to-one peer coaching for staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**How would you rate your school library's resources in terms of the ability to meet the needs of the following student groups (per OSPI designations)?**

	<b>Inadequate</b>	<b>Somewhat inadequate</b>	<b>Somewhat adequate</b>	<b>Very adequate</b>	<b>Unsure</b>
Transitional bilingual (ELL/ESL) students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High interest-low reading level students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High interest-high reading level students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Students with physical disabilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Special education students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Black students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hispanic students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pacific Islander/Asian students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

American Indian/Alaskan Indian students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Caucasian students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other ethnic students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**How involved is the head/supervising librarian in your building with the implementation or teaching of the common core state standards?**

- Very involved
- Somewhat involved
- Not very involved
- Not at all involved

**Does your school library participate in any of the following formal educational technology assessments?**

- CBAs
- TRAILS
- Other
- None
- Don't know

**Check all that apply to your school with regard to summer reading:**

- Our school has a summer reading program that includes access to our school library.
- Our school district has a summer reading program that includes access to a school library.
- Our school or district provides staffing for the hours of our summer reading programs.
- Our school collaborates with a public library to provide a summer reading program.
- I would be interested in starting a school- or district-level summer reading program that provides access to a school library or school libraries.
- I would be interested in starting a summer reading program in collaboration with a public library.

---

**Library: No**

**If your school building does NOT have a designated library facility, is it because:\***

- It never had a library facility
- The library facility closed during the past three years
- The library facility closed more than three years ago

**If your school had a library facility in the past, but no longer does, what is/are the reason(s) for the closure of the school library. Please check all that apply:\***

- Budget cuts

- Administrative decision
  - Staffing cuts
  - Collection was too old to be useful and the cost to update too prohibitive
  - Space needed for other purposes
  - Lack of use
  - Other
-

## APPENDIX B- Total Survey Responses, and Comparison of Responding Schools with and Without CTLs on Staff.

All percentages refer to column totals.

Items marked by an asterix (\*) indicates a statistically significant difference on that item between schools with and without CTLs on staff ( $p < .01$ ).

ACCESSIBLTY AND USAGE		ALL	NO CTL	CTL
TOTAL		1,437	482	955
<b>Average number of hours the library is open and staffed for teachers and students to use?*</b>				
• 30 hours or less		31.9%	50.0%	22.8%
• 31 to 40 hours		47.8%	36.9%	53.3%
• 40 or more hours		18.7%	9.3%	23.5%
Missing		1.5%	3.7%	0.4%
<b>What type of scheduling is used in your school library?</b>				
• Fixed		43.8%	42.7%	44.3%
• Flexible		24.1%	16.2%	28.1%
• Combination of fixed and flexible		26.3%	33.0%	22.9%
Missing		5.8%	8.1%	4.7%
<b>In a typical week, what is the approximate number of group or class visits to your school's library for ANY reason?*</b>				
• 1-10 groups		15.2%	26.6%	9.4%
• 11-15 groups		12.1%	14.5%	10.9%
• 16-20 groups		19.3%	20.3%	18.7%
• 21-30 groups		32.6%	21.4%	38.2%
• 31+		15.2%	9.1%	18.2%
Missing		5.7%	8.1%	4.5%
<b>In a typical week, how many of the approximate number of groups which visit the school's library are in the library for purposes unrelated to the library or its collection?</b>				
• 1-10 groups		78.4%	80.6%	79.9%
• 11-15 groups		6.5%	5.6%	7.0%
• 16-20 groups		2.9%	2.7%	3.0%
• 21+ groups		2.5%	2.1%	2.7%
Missing		8.1%	11.2%	6.6%
<b>In a typical day, how many individual students visit the school library to use library resources who are not part of a class or group?*</b>				
• 0 to 20 students		31.9%	41.9%	26.8%
• 21 to 50 students		29.9%	29.0%	30.3%
• 51 to 100 students		18.3%	15.6%	19.7%
• 101+ students		14.6%	5.8%	19.1%
Missing		5.4%	7.7%	4.2%
<b>On average, how many hours per week does the librarian (or librarians) teach in a classroom outside of the library?*</b>				
• 0 hours		65.6%	68.3%	64.3%
• 1-2 hours		15.0%	7.7%	18.6%
• 3-4 hours		5.0%	2.7%	6.2%
• 5-9 hours		4.1%	3.5%	4.4%
• 10+ hours		3.8%	6.0%	2.6%
Missing		6.5%	11.8%	3.9%



COLLECTIONS		ALL	Non-CTL	CTL
<b>TOTAL</b>		1,437	482	955
<b>Approximate number of books in print in in the library*</b>				
• Less than 3,000		6.3%	12.9%	3.0%
• 3,000 to 5,000		6.2%	12.4%	3.0%
• 5,000 to 10,000		26.5%	27.6%	26.0%
• 10,000+		57.6%	41.1%	65.9%
<b>Missing</b>		3.4%	6.0%	2.1%
<b>What is the approximate total circulation number per school year in your school's library</b>				
• Less than 3,000		14.1%	25.3%	8.5%
• 3,000 to 5,000		11.0%	12.4%	10.3%
• 5,000 to 10,000		18.2%	18.3%	18.2%
• 10,000 to 20,000		27.7%	20.7%	31.2%
• 20,000+		23.4%	13.9%	28.2%
<b>Missing</b>		5.6%	9.3%	3.7%

TECHNOLOGY		ALL	NO CTL	CTL
<b>TOTAL</b>		1,437	482	955
<b>Number of licensed, web-based informational databases via paid school subscriptions*</b>				
• No additional paid subscriptions		18.7%	33.8%	11.1%
• 1 to 3		34.0%	36.1%	32.9%
• 4 to 5		20.9%	13.1%	24.9%
• 6 or more		23.7%	11.6%	29.7%
<b>Missing</b>		2.7%	5.4%	1.4%
<b>Online catalog that students, teachers, and parents can access remotely from outside the school building via internet?*</b>				
• Yes		82.7%	64.1%	92.1%
• No		14.3%	30.5%	6.2%
<b>Missing</b>		2.9%	5.4%	1.7%
<b>How many computers are housed in and available in your school library?</b>				
• 0-5		19.8%	34.6%	12.4%
• 6-10		17.3%	20.3%	15.7%
• 11-20		21.3%	12.9%	25.5%
• 21 or more		38.6%	26.6%	44.7%
<b>Missing</b>		3.0%	5.6%	1.7%
<b>Are students and staff able to access and utilize web-based productivity/collaboration tools</b>				
• Yes with unlimited access		11.1%	13.1%	10.1%
• Yes with limited access		73.1%	71.4%	73.9%
• No access		12.2%	9.8%	13.4%
<b>Missing</b>		3.7%	5.8%	2.6%
<b>Does your library participate in any of the following formal educational technology assessments?*</b>				
• CBAs		34.6%	14.9%	44.5%
• TRAILS		4.3%	0.8%	6.1%
• Other		6.2%	6.2%	6.2%
• None		36.0%	47.5%	30.2%
• Don't know		11.7%	18.9%	8.1%
<b>Missing</b>		7.2%	11.6%	5.0%

SATISFACTION	ALL	NO CTL	CTL
<b>TOTAL</b>	1,437	482	955
<b>Fiction print resources in the school library meet the overall needs of students and faculty in terms of currency, quantity, quality and curriculum*</b>			
• Strongly Agree	22.5%	14.5%	27.0%
• Somewhat Agree	51.1%	47.4 %	53.2%
• Somewhat or Strongly Disagree	19.2%	22.8%	17.2%
<b>Missing</b>	7.1%	15.3%	2.6%
<b>Non-fiction print resources in the school library meet the overall needs of students and faculty in terms of currency, quantity, quality and curriculum.</b>			
• Strongly Agree	8.7%	7.0%	9.7%
• Somewhat Agree	40.8%	36.8%	43.0%
• Somewhat Disagree	32.9%	27.9%	35.7%
• Strongly Disagree	9.9%	12.6%	8.4%
<b>Missing</b>	7.7%	15.7%	3.2%
<b>How would you rate your school library's resources in terms of the ability to meet the needs of the following student groups (this section includes non-missing responses only, about 1,324 or 89%)</b>			
<b>Transitional/Bilingual Students*</b>			
• Inadequate	24.8%	23.9%	25.2%
• Somewhat inadequate	29.1%	30.5%	28.5%
• Unsure	6.9%	12.2%	4.4%
• Somewhat adequate	32.5%	27.5%	34.9%
• Very adequate	6.6%	5.9%	7.0%
<b>High interest-low reading level students*</b>			
• Inadequate	4.1%	3.7%	4.2%
• Somewhat inadequate	18.9%	18.0%	19.4%
• Unsure	1.4%	3.3%	.4%
• Somewhat adequate	46.0%	47.5%	45.2%
• Very adequate	29.7%	27.4%	30.7%
<b>High interest-high reading level students*</b>			
• Inadequate	2.3%	3.0%	1.9%
• Somewhat inadequate	8.6%	8.2%	8.7%
• Unsure	1.7%	3.7%	.8%
• Somewhat adequate	38.9%	44.3%	36.4%
• Very adequate	48.5%	40.7%	52.2%
<b>Students with physical disabilities*</b>			
• Inadequate	12.0%	10.1%	12.9%
• Somewhat inadequate	23.1%	18.6%	25.1%
• Unsure	14.1%	20.3%	11.2%
• Somewhat adequate	34.6%	33.7%	35.0%
• Very adequate	16.2%	17.2%	15.7%
<b>Special education students*</b>			
• Inadequate	4.2%	2.3%	5.1%
• Somewhat inadequate	20.2%	18.2%	21.2%
• Unsure	5.2%	7.7%	4.0%
• Somewhat adequate	49.4%	49.8%	49.2%
• Very adequate	21.0%	22.0%	20.5%

<b>Caucasian students*</b>			
• Inadequate	1.1%	1.4%	1.0%
• Somewhat inadequate	2.9%	3.5%	2.6%
• Unsure	7.5%	11.8%	5.4%
• Somewhat adequate	31.9%	38.0%	29.0%
• Very adequate	56.6%	45.3%	62.0%
<b>Non-white student groups (combined)</b>			
• Inadequate	2.7%	1.7%	3.2%
• Somewhat inadequate	11.9%	10.1%	12.7%
• Unsure	26.0%	28.4%	24.8%
• Somewhat adequate	40.5%	40.2%	40.6%
• Very adequate	19.0%	19.5%	18.7%

<b>How would you best describe the curriculum in your school?*</b>	<b>ALL</b>	<b>No CTL</b>	<b>CTL</b>
<b>TOTAL</b>	1,437	482	955
Part of a grade leveled or sequenced, board and/or district approved information literacy curriculum written/revised in the past 5 years	13.2%	6.8%	16.4%
Part of a grade leveled or sequenced, board and/or district approved information literacy curriculum written/revised more than 5 years ago	6.6%	4.4%	7.7%
Written in the past five years, but is not part of a sequenced written information literacy curriculum.	9.0%	3.5%	11.8%
The library delivers objectives which were created and are delivered in collaboration with teachers and their curriculum	24.4%	15.1%	29.1%
The library in this building does not utilize a written or specified curriculum and/or uses an outdated curriculum that is not part of a sequenced written information literacy curriculum	39.2%	59.5%	28.9%
<b>Missing</b>	7.5%	10.6%	6.0%

<b>LIBRARIAN DUTIES</b>	<b>ALL</b>	<b>No CTL</b>	<b>CTL</b>
<b>TOTAL</b>	1,437	482	955
<b>How involved is the head/supervising librarian in your building with the implementation or teaching of the Common Core State Standards?*</b>			
• Very involved	21.1%	12.2%	25.5%
• Somewhat involved	40.4%	21.4%	49.9%
• Not very involved	15.5%	17.8%	14.3%
• Not at all involved	12.8%	30.1%	4.1%
<b>Missing</b>	10.2%	18.5%	6.1%
<b>Approximately how much time is spent each week in the following activities, as a percentage of the work week? (proportions are for those who responded to the questions only – from 75 to 90%)</b>			
• Formal Instruction of information literacy skills*	28.7%	18.4%	32.9%
• Informal instruction of information literacy skills*	13.6%	11.7%	14.3%
• Collection/library management*	22.9%	29.2%	20.0%
• Reading support or reading advocacy*	15.8%	13.3%	16.9%
• Collaborative planning and/or curriculum work*	9.6%	7.5%	10.6%
• Duties outside of the school library**	13.0%	20.8%	9.5%

CTL teaching responsibilities related to information technology	No Library and/or No CTL on staff	CTL on staff
<b>TOTAL</b>	534	952
<b>How to locate and use library and online resources*</b>		
• Taught by School librarian		97.0%
• Taught by Classroom teachers	35.1%	1.1%
• Not taught	64.9%	1.9%
<b>How to evaluate and make best-fit reading choices*</b>		
• Taught by School librarian		86.0%
• Taught by Classroom teachers	80.4%	11.9%
• Not taught	19.6%	2.1%
<b>Understand genres and skills different information *</b>		
• Taught by School librarian		82.4%
• Taught by Classroom teachers	82.2%	15.1%
• Not taught	17.8%	2.6%
<b>Information literacy/research cycles*</b>		
• Taught by School librarian		89.9%
• Taught by Classroom teachers	72.9%	5.8%
• Not taught	27.1%	4.3%
<b>How to use databases for online research*</b>		
• Taught by School librarian		92.2%
• Taught by Classroom teachers	59.1%	3.4%
• Not taught	40.9%	4.3%
<b>How to search efficiently online? *</b>		
• Taught by School librarian		90.0%
• Taught by Classroom teachers	61.8%	4.9%
• Not taught	38.2%	5.1%
<b>How and why to cite sources*</b>		
• Taught by School librarian		86.2%
• Taught by Classroom teachers	76.1%	12.2%
• Not taught	23.9%	1.7%
<b>How to evaluate and use online resources *</b>		
• Taught by School librarian		89.9%
• Taught by Classroom teachers	66.2%	5.3%
• Not taught	33.8%	4.8%
<b>Internet safety/digital citizenship*</b>		
• Taught by School librarian		81.0%
• Taught by Classroom teachers	60.5%	10.1%
• Not taught	39.5%	8.9%
<b>1-1 Peer Coaching for Staff*</b>		
• Taught by School librarian		41.8%
• Taught by Classroom teachers	35.2%	11.6%
• Not taught	64.8%	46.6%
<b>Career and College Readiness Skills</b>		
• Taught by School librarian		30.4%
• Taught by Classroom teachers	56.9%	32.7%
• Not taught	43.15	36.9%

BUDGET	ALL	NO CTL	CTL
<b>TOTAL</b>	1,437	465	952
<b>Approximately how much is budgeted/spent per student for instructional resources in your library?</b>			
<b>STUDENT - 2013/14*</b>			
• None	4.4%	4.5%	4.4%
• Unknown	9.9%	8.5%	9.9%
• \$1 to 10	62.0%	67.8%	62.0%
• \$11-20	9.2%	10.6%	9.2%
• \$21 or more	4.1%	3.0%	4.1%
Missing	10.3%	18.5%	5.8%
<b>STUDENT - 2012/13*</b>			
• None	4.4%	5.5%	3.8%
• Unknown	12.0%	14.7%	10.5%
• \$1 to 10	59.8%	48.5%	66.1%
• \$11-20	8.7%	6.4%	9.9%
• \$21 or more	3.4%	4.5%	2.8%
Missing	11.7%	20.4%	6.9%
<b>STUDENT - 2011/12*</b>			
• None	4.2%	4.9%	3.8%
• Unknown	14.1%	15.7%	13.2%
• \$1 to 10	56.9%	46.6%	62.7%
• \$11-20	9.1%	7.5%	9.9%
• \$21 or more	3.6%	4.3%	3.2%
Missing	12.1%	20.9%	7.2%
<b>Approx. how much funding did your library receive from sources, such as PTSA/PTA, grants, etc?</b>			
<b>NON-DISTRICT – 2013/14*</b>			
• None	20.1%	20.0%	20.1%
• <\$500	20.3%	21.1%	19.9%
• \$501-1000	15.9%	14.9%	16.4%
• \$1001-1500	9.8%	9.4%	9.9%
• \$1501-3000	13.5%	10.0%	15.5%
• \$3001+	9.6%	5.3%	12.0%
Missing	10.8%	19.2%	6.2%
<b>NON-DISTRICT – 2012/13*</b>			
• None	20.6%	20.4%	20.7%
• <\$500	20.1%	21.3%	19.4%
• \$501-1000	13.8%	12.1%	14.7%
• \$1001-1500	11.1%	9.4%	12.0%
• \$1501-3000	12.4%	9.1%	14.3%
• \$3001+	9.0%	5.1%	11.2%
Missing	13.0%	22.6%	7.6%
<b>NON-DISTRICT – 2011/12*</b>			
• None	20.3%	21.1%	19.8%
• <\$500	20.5%	20.4%	20.6%
• \$501-1000	14.9%	14.0%	15.4%
• \$1001-1500	10.0%	7.0%	11.6%
• \$1501-3000	11.8%	8.9%	13.5%

• \$3001+	8.3%	5.3%	10.0%
Missing	14.2%	23.4%	9.1%

OTHER QUESTIONS	ALL	NO CTL	CTL
<b>TOTAL WITHOUT LIBRARY FACILITY</b>	48	47	1
<b>If your school building does NOT have a designated library facility, is it because:</b>			
• It never had a library facility	85.4%	85.1%	100.0%
• The library facility closed during the past three years	2.1%	2.1%	0.0%
• The library facility closed more than three years ago	12.5%	12.8%	0.0%
<b>If your school building had a library facility in the past, but not now, what were the reasons for the closure of the library?</b>			
• Budget cuts, Administrative decision, and space needed for other purposes	2.1%	2.1%	
• Budget cuts and administrative decision	10.4%	10.6%	0.0%
• Budget cuts and staffing cuts	2.1%	2.1%	0.0%
• Budget cuts	2.1%	2.1%	0.0%
• Space needed for other purposes	16.7%	14.9%	100%
• Lack of use	4.2%	4.3%	0.0%
• students use other district libraries	2.1%	2.1%	0.0%
• Shares library with middle School	4.2%	4.3%	0.0%
• Classroom libraries only	2.1%	2.1%	0.0%
• online school	2.1%	2.1%	0.0%
• Lack of funding	2.1%	2.1%	0.0%
• Check out only, no electronic	2.1%	2.1%	0.0%
• other	47.9%	48.9%	0.0%

SCHOOL OUTCOMES	ALL	NO CTL	CTL
<b>TOTAL SURVEY RESPONSE RATE</b>	1,486	530 (35.6%)	956 (64.3%)
• Passed 4 <sup>th</sup> Grade Standardized Reading Test*	72.5%	70.8%	73.4%
• Passed 4 <sup>th</sup> Grade Standardized Math Test*	61.9%	58.6%	63.4%
• Passed 6 <sup>th</sup> Grade Standardized Reading Test	72.1%	70.7%	72.9%
• Passed 6 <sup>th</sup> Grade Standardized Math Test*	61.1%	58.9%	62.5%
•			
• Passed 7 <sup>th</sup> Grade Standardized Reading Test	68.7%	67.7%	69.4%
• Passed 7 <sup>th</sup> Grade Standardized Math Test*	63.8%	61.6%	65.2%
• Passed 8 <sup>th</sup> Grade Standardized Reading Test	66.2%	65.1%	66.9%
• Passed 8 <sup>th</sup> Grade Standardized Math Test*	52.8%	49.6%	54.9%
•			
• Passed High School Standardized Reading Test*	82.4%	78.8%	84.7%
• Passed High School EOC math – Year 1*	72.7%	63.6%	76.6%
• Passed High School EOC math – Year 2	81.3%	79.6%	82.1%
• Average 5 year graduation rate, 2012/13*	81.5%	76.0%	84.8%

\*Indicates that the difference is statistically significant, t-test p<.01.

**APPENDIX C: Survey Responses and Academic Achievement Indicators.**

Individual library characteristics associated with high school outcomes. Statistically significant relationships between survey responses and high school outcomes are indicated by an asterisk (\*) in the corresponding row and column ( $p < .01$ ). All percentages refer to row totals.

**High School Outcomes**

ACCESSIBILITY AND USAGE	Grade 10 reading	Year 1 EOC math	Year 2 EOC math	5-year Graduation rate
<b>TOTAL: 304</b>	82.4%	72.7%	81.3%	81.5%
<b>Library Staffing</b>	*	*		*
• Paid Certified Teacher Librarian (CTL)	84.7%	76.6%	82.1%	84.8%
• No CTL on staff	78.8%	63.6%	79.6%	76.0%
<b>Hours per week the library is open and staffed for teachers and students to use</b>	*	*		*
• 30 hours or less	79.2%	65.7%	78.2%	77.0%
• 31 to 40 hours	85.3%	74.6	81.5%	84.4
• 40 or more hours	83.8%	77.4	83.4%	85.8%
<b>In a typical week, approximately how many groups or classes visit the school’s library for ANY reason?</b>		*	*	*
• 1-10 groups	81.2%	67.9%	77.4%	78.6%
• 11-15 groups	84.8%	74.5%	85.3%	84.0%
• 16-20 groups	82.8%	77.5%	83.6%	86.6%
• 21-30 groups	84.9%	77.6%	81.4%	87.5%
• 31+	86.2%	78.6%	85.1%	87.1%
<b>Missing</b>				
<b>In a typical day, how many individual students visit the school library who are not part of a class or group?</b>	*	*	*	*
• 0 to 20 students	78.1%	56.8%	74.0%	74.1%
• 21 to 50 students	81.4%	71.2%	81.2%	81.3%
• 51 to 100 students	85.8%	77.9%	82.6%	88.1%
• 101+ students	85.7%	79.0%	83.6%	86.4%

COLLECTIONS	Grade 10 reading	Year 1 EOC math	Year 2 EOC math	5-yr Grad rate
<b>Approximate number of books in print in the library</b>	*	*	*	*
• Less than 3,000	79.5%	62.2%	78.7%	79.3%
• 3,000 to 5,000	82.8%	69.5%	76.2%	79.1%
• 5,000 to 10,000	82.3%	71.1%	80.7%	83.3%
• 10,000+	85.3%	78.4%	83.6%	86.7%
<b>Fiction print resources in the school library meet the overall needs of students and faculty</b>	*	*	*	*
• Somewhat or Strongly Agree	84.2%	75.4%	82.4%	84.6%
• Somewhat or Strongly Disagree	81.4%	71.0%	79.0%	80.9%

TECHNOLOGY	Grade 10 reading	Year 1 EOC math	Year 2 EOC math	5-yr Grad rate
<b>Number of licensed, web-based informational databases via paid school subscriptions</b>		*	*	
• No additional paid subscriptions	80.0%	66.0%	80.4%	82.6%
• 1 to 3	82.7%	72.1%	79.8%	84.7%
• 4 to 5	84.0%	72.9%	78.8%	82.6%
• 6 to 10	85.7%	77.2%	83.2%	85.0%
• 11 or more	85.0%	81.9%	86.5%	83.9%
<b>Online catalog that can be accessed remotely from outside the school via internet?</b>		*		
• Yes	84.0%	75.7%	81.9%	84.4%
• No	81.8%	68.0%	79.9%	81.5%
<b>How many computers are housed in and available in your school library?</b>	*	*		*
• 0-5	79.3%	59.8%	78.8%	77.4%
• 6-10	78.4%	64.9%	77.4%	75.8%
• 11-20	82.9%	68.1%	78.4%	79.8%
• 21-30	83.6%	76.3%	82.0%	86.0%
• 31+	85.6%	77.9%	83.5%	86.5%
<b>Does your school library participate the following educational technology assessments?</b>		*		*
• CBAs	85.5%	77.4%	83.4%	86.6%
• TRAILS	82.1%	73.1%	77.3%	74.3%
• Other	85.5%	76.4%	81.3%	87.3%
• None	82.5%	72.4%	81.4%	83.4%
• Don't know	81.1%	69.2%	78.9%	75.3%



## Elementary and Middle School Outcomes

Individual library characteristics positively associated with high school outcomes and included in the overall all composite library quality indicator.

ACCESSIBILITY AND USAGE	4 <sup>th</sup> Grade reading	4 <sup>th</sup> Grade Math	6 <sup>th</sup> Grade Reading	6 <sup>th</sup> Grade Math	7 <sup>th</sup> Grade reading	7 <sup>th</sup> Grade Math	8 <sup>th</sup> Grade Reading	8 <sup>th</sup> Grade Math
<b>TOTAL in outcome analysis</b>	843	843	498	497	344	343	335	334
<b>Overall average</b>	72.5%	61.9%	72.1%	61.1%	68.7%	63.8%	66.2%	52.8%
<b>Library Staffing</b>	*	*	NS	*	NS	*	NS	*
• Certified Teacher Librarian (CTL)	73.4%	63.6%	72.9%	62.5%	69.4%	65.2%	66.9%	54.9%
• No CTL on staff	70.8%	58.6%	70.7%	58.9%	67.7%	61.6%	65.1%	49.6%
<b>Hours library is open and staffed/week</b>		*						
• 30 hours or less	72.6%	60.2%	72.1%	61.3%	68.4%	62.1%	64.4%	50.8%
• 31 to 40 hours	72.2%	62.1%	72.1%	61.2%	70.2%	65.6%	67.9%	54.7%
• 40 or more hours	74.5%	66.1%	73.1%	61.5%	66.9%	63.2%	65.5%	51.4%
<b>Approximately how many groups or classes visit the school's library for any reason, per week?</b>	NS	*	NS	*	NS	*	*	*
• 1-10 groups	70.3%	52.9%	69.9%	56.7%	65.7%	59.5%	61.6%	45.8%
• 11-15 groups	69.8%	56.5%	71.5%	60.2%	70.0%	66.3%	66.8%	55.0%
• 16-20 groups	73.1%	62.0%	73.0%	61.4%	71.0%	66.9%	68.5%	57.0%
• 21-30 groups	73.8%	63.9%	73.1%	64.0%	69.3%	64.8%	68.4%	54.3%
• 31+	71.5%	62.4%	72.9%	61.0%	71.0%	64.8%	69.9%	57.3%
<b>How many individual students visit the school library to use library resources on an average day?</b>	NS	NS	NS	NS	*	*	*	*
• 0 to 20 students	71.3%	60.6%	71.5%	61.5%	67.6%	60.1%	62.0%	45.6%
• 21 to 50 students	73.7%	62.8%	72.0%	61.4%	65.7%	61.6%	64.7%	51.6%
• 51 to 100 students	74.2%	62.7%	72.0%	60.2%	70.6%	65.8%	68.0%	55.5%
• 101+ students	73.3%	62.5%	75.4%	62.6%	72.6%	68.9%	70.4%	58.4%

COLLECTIONS	4 <sup>th</sup> Grade reading	4 <sup>th</sup> Grade Math	6 <sup>th</sup> Grade Reading	6 <sup>th</sup> Grade Math	7 <sup>th</sup> Grade reading	7 <sup>th</sup> Grade Math	8 <sup>th</sup> Grade Reading	8 <sup>th</sup> Grade Math
<b>Number of book in print in in the library</b>	*	*	NS	*	NS	*	NS	*
• Less than 3,000	65.9%	51.0%	66.6%	54.1%	64.1%	54.9%	59.6%	40.3%
• 3,000 to 5,000	70.2%	57.0%	70.0%	59.1%	67.9%	65.0%	65.3%	50.1%
• 5,000 to 10,000	72.2%	59.7%	72.2%	60.1%	70.9%	66.2%	66.8%	54.5%
• 10,000+	73.6%	64.1%	73.1%	62.6%	68.7%	64.2%	67.5%	54.7%
<b>Fiction print resources meet needs</b>	*	*	*	*	NS	*	*	NS
• Somewhat or Strongly Agree	73.7%	63.4%	73.1%	62.7%	69.4%	65.2%	67.1%	53.8%
• Somewhat or Strongly Disagree	69.8%	58.5%	69.7%	57.1%	66.2%	58.6%	63.0%	49.6%

TECHNOLOGY	4 <sup>th</sup> Grade reading	4 <sup>th</sup> Grade Math	6 <sup>th</sup> Grade Reading	6 <sup>th</sup> Grade Math	7 <sup>th</sup> Grade reading	7 <sup>th</sup> Grade Math	8 <sup>h</sup> Grade Reading	8 <sup>th</sup> Grade Math
<b>Number of licensed informational databases</b>	*	*	*	*	*	*	*	*
• No additional paid subscriptions	69.3%	56.7%	69.3%	55.3%	65.8%	60.1%	63.1%	49.0%
• 1 to 3	72.2%	60.9%	71.3%	60.4%	66.9%	61.5%	64.7%	48.9%
• 4 to 5	73.8%	64.1%	73.8%	65.2%	71.7%	65.5%	68.7%	56.9%
• 6 to 10	76.7%	68.3%	73.6%	61.6%	69.7%	66.7%	67.4%	55.3%
• 11 or more	79.2%	68.3%	76.5%	66.1%	74.8%	71.8%	71.7%	62.0%
<b>Online catalog accessible remotely?</b>	*	*	*	*	*	*	*	*
• Yes	73.4%	62.7%	72.9%	61.9%	69.7%	65.1%	67.1%	54.5%
• No	68.6%	53.1%	69.1%	57.4%	64.6%	58.3%	62.7%	45.4%
<b>Number of available computers</b>	*	*	NS	NS	*	*	*	*
• 0-5	69.6%	56.8%	71.1%	61.4%	66.3%	59.2%	59.7%	45.9%
• 6-10	72.2%	60.1%	72.5%	61.8%	63.6%	60.6%	64.0%	49.7%
• 11-20	76.8%	67.8%	74.1%	63.4%	71.0%	66.6%	68.8%	55.6%
• 21-30	73.6%	64.4%	71.1%	58.6%	68.2%	64.0%	65.9%	52.4%
• 31+	71.1%	62.0%	72.6%	60.6%	71.1%	65.5%	68.2%	55.3%
<b>Educational technology assessments?</b>	*	*	NS	NS	NS	NS	NS	NS
• CBAs	74.6%	64.8%	73.5%	62.2%	69.1%	64.4%	66.5%	54.1%
• TRAILS	77.2%	67.6%	73.2%	62.3%	68.9%	62.1%	67.2%	56.1%
• Other	74.1%	63.9%	72.9%	61.3%	70.4%	67.0%	68.7%	55.1%
• None	70.6%	59.3%	70.2%	59.5%	68.8%	63.2%	66.4%	50.9%
• Don't know	72.1%	60.4%	72.7%	62.1%	69.7%	65.0%	66.0%	51.9%

**FRPL status, library quality and standardized test scores 4<sup>th</sup> through 8<sup>th</sup> grade**

<b>FRPL status and ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE</b>	<b>ALL</b>	<b>71+ % FRPL</b>	<b>51 to 70% FRPL</b>	<b>31 to 50% FRPL</b>	<b>0 to 30% FRPL</b>
<b><u>Approximate total in each category</u></b>	<b>1,155</b>	<b>253</b>	<b>285</b>	<b>330</b>	<b>287</b>
Survey Composite Score*	<b>22.3</b>	21.0	21.6	22.3	24.0
Passed 4 <sup>th</sup> grade standardized reading *	<b>72.5%</b>	59.3%	69.8%	75.9%	84.5%
Passed 4 <sup>th</sup> grade standardized math*	<b>61.9%</b>	49.6%	56.7%	63.4%	77.1%
Passed 6 <sup>th</sup> grade standardized reading *	<b>72.1%</b>	56.8%	68.4%	75.0%	83.1%
Passed 6 <sup>th</sup> grade standardized math *	<b>61.1%</b>	46.6%	54.6%	63.9%	74.6%
Passed 7 <sup>th</sup> grade standardized reading*	<b>68.8%</b>	53.2%	62.9%	72.0%	79.3%
Passed 7 <sup>th</sup> grade standardized math*	<b>63.8%</b>	48.8%	58.0%	65.3%	76.0%
Passed 8 <sup>th</sup> grade standardized reading *	<b>66.2%</b>	48.6%	61.8%	68.1%	77.9%
Passed 8 <sup>th</sup> grade standardized math*	<b>52.8%</b>	38.8%	46.4%	53.4%	66.5%

## APPENDIX D. Geographic Descriptors and Categories

Setting	NCES Locale(s)	Definitions
<b>Large Metro</b>	City, Large territory	Urbanized area inside a principal city with a population of 100,000 or more
	City, Mid-size Territory	
<b>Metro Suburb</b>	Suburb, Large territory	Urbanized area outside a principal city with a population of 250,000 or more
<b>Mid-Size</b>	City, Small territory	Inside an urbanized area and: 1. Inside a principal city with a population less than 100,000 OR 2. Outside a principal city with a population between 100,000 and 250,000 OR 3. Outside a principal city with a population less than 100,000
	Suburb, mid-size territory	
	Suburb, small territory	
<b>Urban Fringe</b>	Town, Fringe Territory	Inside an urban cluster that is less than or equal to 10 miles from an urbanized area
	Rural, Fringe (if inside the MSA)	Rural territory less than or equal to 5 miles from an urbanized area, and/or rural territory less than or equal to 2.5 miles from an urban cluster
<b>Distant</b>	Rural, Fringe (if outside the MSA)	<ul style="list-style-type: none"> <li>• Rural territory less than or equal to 5 miles from an urbanized area, and/or rural territory less than or equal to 2.5 miles from an urban cluster</li> <li>• Inside urban cluster more than 10 and less than 35 miles from an urbanized area</li> <li>• Inside urban cluster more 35 miles from an urbanized area</li> <li>• Rural territory between 5 and 25 miles from an urban area, or between 2.5 and 10 miles from an urban cluster</li> <li>• Rural territory more than 25 miles from urban area and more than 10 miles from urban cluster.</li> </ul>
	Town, distant territory	
	Town, remote territory	
	Rural, Distant	
	Rural, Remote	

### Relationship between School Location and School Performance

LOCATION AND ACCESS TO QUALITY LIBRARIES IN WASHINGTON STATE	Rural County			Urban County	
	ALL	Distant	Suburb, Midsize or Urban Fringe	Distant, suburb, mid-size or fringe	Large Metro
<b>Approximate total in each category</b>	1,486	276	85	887	238
• Passed High School reading	<b>82.4%</b>	81.5%	72.9%	84.2%	81.0%
• Passed High School EOC math – Year 1	<b>72.7%</b>	69.9%	63.8%	74.6%	72.2%
• Passed High School EOC math – Year 2	<b>81.3%</b>	81.3%	78.0%	82.4%	78.2%
• Average 5 year graduation rate, 12/13	<b>81.5%</b>	81.8%	73.2%	83.3%	77.1%
• Passed 4 <sup>th</sup> Grade Reading	<b>72.5</b>	66.1	65.2	74.9	72.2
• Passed 4 <sup>th</sup> Grade Math	<b>61.9</b>	51.8	50.1	65.3	62.1
• Passed 6 <sup>th</sup> Grade Reading	<b>72.1</b>	65.9	67.2	74.3	73.0
• Passed 6 <sup>th</sup> Grade Math	<b>61.1</b>	53.6	53.6	64.0	61.8
• Passed 7 <sup>th</sup> Grade Reading	<b>68.7</b>	64.5	61.3	70.6	70.8
• Passed 7 <sup>th</sup> Grade Math	<b>63.8</b>	59.2	55.1	67.0	65.6
• Passed 8 <sup>th</sup> Grade Reading	<b>66.2</b>	61.1	63.6	68.1	68.1
• Passed 8 <sup>th</sup> Grade Math	<b>52.8</b>	45.0	44.7	55.4	58.2

**Library Details by County** \*population: Schools that would have received the library survey  
*All County student enrollments the sum of the population of the districts in the geographical location on Oct 1, 2013 (source: OSPI)*

**Northeast Washington**

Characteristics	Ferry	Stevens	Pend Oreille	Lincoln	Spokane
Total Student Enrollment in County	1,002	6,494	1,629	2,004	72,448
Number of School Districts in County	5	12	3	8	14
Number of Schools in County	13	46	13	17	168
% of County Schools responding to survey	23%	30%	15%	47%	49%
Number of CTLs reported by surveys	0	3	0	4	55
Percentage of Schools with CTLS	0	7%	0	24%	33%
Average Library Quality Score (LQS) out of 35	22.3	12.7	23	14.5	22.4

**Central Washington**

Characteristics	Chelan	Douglas	Grant	Kittitas	Okanogan
Total Student Enrollment in County	13,011	7,073	19,215	4,868	9,418
Number of School Districts in County	7	6	10	6	8
Number of Schools in County	37	19	55	21	31
% of County Schools responding to survey	65%	53%	56%	43%	48%
Number of CTLs reported by surveys	10	3	7	5	3
Percentage of Schools with CTLS	27%	16%	13%	24%	10%
Average Library Quality Score (LQS) out of 35	20.7	19.0	17.3	20.9	21.4

**Southwest Washington**

Characteristics	Clark	Cowlitz	Lewis	Pacific	Wahkia-kum	Skama-nia	Klickitat	Yakima
Total County School Enrollment	77,776	16,841	11,868	3,293	439	1,199	3,219	52,002
Number of School Districts in County	9	6	13	6	1	4	10	15
Number of Schools in County	131	47	45	25	2	10	22	100
% of County Schools responding to survey	85%	66%	44%	24%	0%	50%	55%	59%
Number of CTLs reported by surveys	83	16	1	0	0	0	2	39
Percentage of Schools with CTLS	63%	34%	2%	0%	0%	0%	9%	39%
Average LQS out of 35	24.6	20.5	17.9	21.7	0	16.6	19.8	20.8

**Southeast Washington**

Characteristics	Adams	Asotin	Benton	Franklin	Columbia	Garfield	Walla Walla	Whitman
Total County School Enrollment	4,500	3,302	34,299	18,232	482	324	8,971	4,530
# School Districts in County	5	2	6	4	2	1	7	13
Schools in County	14	10	55	28	4	2	29	28
% of Schools responding to survey	29%	70%	82%	75%	50%	50%	62%	57%
Number of CTLs reported	1	1	41	14	0	0	9	7
% of Schools with CTLS	7%	10%	75%	50%	0%	0%	31%	25%
Average LQS out of 35	5.5	18.4	24.3	21.5	19.5	2.0	20.3	18.8

**Northwest Washington/Olympic Peninsula**

Characteristics	Clallam	Island	Jefferson	Grays Harbor	Kitsap	Mason	San Juan	Thurston
Total County School Enrollment	10,591	8,096	2,872	10,367	36,190	7,908	1,955	40,601
School Districts in County	5	3	5	13	5	7	4	8
Schools in County	30	22	17	46	83	21	15	78
% of Schools responding to survey	47%	36%	53%	50%	55%	43%	40%	76%
Number of CTLs reported	6	5	6	1	37	6	1	40
Percentage of Schools with CTLS	20%	23%	35%	2%	45%	29%	7%	51%
Average LQS out of 35	21.8	21.9	18.2	16.0	26.7	23.1	22.8	23.5

**I-5 Corridor**

Characteristics	Pierce	King	Skagit	Snohomish	Whatcom
Total Student Enrollment in County	127,426	270,883	18,787	108,457	27,329
Number of School Districts in County	15	19	7	14	7
Number of Schools in County	271	538	49	214	71
% of County Schools responding to survey	73%	67%	59%	60%	42%

Number of CTLs reported by surveys	135	289	13	98	15
Percentage of Schools with CTLS	50%	54%	27%	46%	21%
Average Library Quality Score (LQS) out of 35	21.6	23.6	18.0	23.7	22.0