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The Importance of Highly Effective School Library Media Programs on School Learning Environments

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Abstract

The purpose of this study was to explore the characteristics of a previously identified successful school library program (SLMP) in a Connecticut public school. The primary goals of this research are to answer these questions by conducting a single case study to examine the nature of this previously identified SLMP so that promising practices identified from this study can be applied to other SLMPs in Connecticut public schools. The data collection methods embodied both qualitative and quantitative instruments that included surveys, interviews and documents. Qualitative data analysis included preparation, familiarization, coding and general meaning that was entered into a table format to compare participant interview and survey data to establish common themes. Quantitative data analysis of survey data using *MS Excel's* correlational tool provided statistical evidence to identify the interrelationships between variables of the administrators, teachers and librarian's perceptions and experiences related to key library practices and activities. Multiple sources of convergent evidence aided in data triangulation strengthening the construct validity to answer the research questions. What was the original vision for the SLMP? How was the vision implemented in the school? How prevalent is collaboration between the SLMS and faculty? How has the SLMP impacted the school learning culture? The data showed a perceived knowledge that SLMSs play critical support roles across the school for all stakeholders in coteaching, curriculum design, instructional resources, technology and support as well as providers of professional development for faculty.

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Chapter 1 – Introduction

Introduction

A highly effective school library media program (SLMP), fully integrated into public school curriculum has demonstrated a profound impact on student achievement (Lance & Rodney 2010; Schwartz, 2010). Recent research in the United States has shown a highly effective SLMP require both certified School Library Media Specialists (SLMS) and library staff (Francis & Lance, 2011; Montiel-Overall & Hernandez, 2012). Considerable research has been conducted in many states to identify and better understand the critical components of effective SLMPs (Lance & Russell, 2004; Small, Shanahan & Stasak, 2010). Successful educational leaders understand the importance of effective SLMPs and their influence on school learning environments, increased student achievement while creating an ongoing culture of school improvement.

Statement of the Problem

An examination of my district identified only five of the seven schools having a certified SLMS and library support staff. There is currently no Director of Library Curriculum and Services; thereby adding to the lack of leadership and shared sense of purpose for the district library curriculum. The existing library curriculum is over 10 years old and does not support the Common Core or current American Association for School Libraries (AASL) *Standards for 21st Century Learners*. The two elementary schools with no active SLMP imply a lack of administrator understanding and support for school libraries (Monteil-Overall, 2005). Consequently, the resulting SLMP for each school varies widely producing inconsistent library and information literacy skills across the district.

School library curriculum is centered on the development of information literacy skills that include how to locate, access, evaluate and use information effectively from a wide range of sources that is applied across the curriculum and throughout life (Lance & Schwartz, 2012). Research has shown how critical these skills are when integrated across the curriculum (Cooper & Bray, 2011; Robins & Antrim, 2012). By contrast, my district might consider adopting a relevant and effective SLMP framework that is staffed appropriately reflecting the current needs of today's schools and districts.

Thesis Study

The purpose of this case study was to explore the characteristics of a previously identified successful SLMP in a Connecticut public school – Simsbury High School (SHS) (Snyder & Roche, 2009). The most recent 2013-14 school profile noted, "based on national rankings, it is one of the most competitive high schools, public or private in the country" (SHS, 2014, p.1). By conducting this single case study, I sought to identify and understand their current practices and beliefs especially in the application and function of their SLMP so they might be applied to my Connecticut school district. The study explored the relationship between their "assured (guaranteed) experiences in information and technology literacy" (Snyder & Roche, 2009, p. 24), and the many variables of their SLMP.

This study addressed the following research questions:

1. What was the original vision for the SLMP?
2. How was the vision implemented in the school?
3. How prevalent is collaboration between the SLMS and faculty?
4. How has the SLMP impacted the school learning culture?

This case study provided an opportunity to test of the theory of the impact of these skills on student achievement in a Connecticut public school setting. I used a variety of data collection methods that provided multiple sources of evidence with the intent of corroborating similar findings (Yin, 2014). Through the convergence of this evidence and careful examination of this data, I sought to gain a better understanding of this phenomenon and its successful application in public school settings.

Summary

School library curriculum that is centered on the development of 21st Century Information Literacy skills of location, access and evaluation of information from a wide range of sources has been shown to have a positive impact across the curriculum (Lance & Schwartz, 2012; Cooper & Bray, 2011). This concept has not been applied across Region One School District indicating a lack of administrator awareness of the importance of school library programs and the impact on the public school learning culture. The application of sound library curriculum that is relevant, current and centered on the development of effective information literacy skills infused across the curriculum has been shown to increase student performance.

Chapter Two will discuss recent research across the United States that confirms a connection between school libraries, school library media specialists and student academic achievement (Achterman, 2009; Francis & Lance, 2001; Lance 2002a; Lance & Russell, 2004). Studies were conducted of individual states as well as multiple states using a rigorous series of both short-term and longitudinal studies (Achterman, 2009; Lance, 2009b; Lance et al., 1990; Small & Shanahan, 2010; Small & Snyder, 2009; Snyder & Roche, 2008; Todd & Kulhthau, 2004). These studies examine the connections

between school libraries and academic achievement, SLMSs and academic achievement and the influence of teacher school librarian collaboration and co-teaching coauthored curriculum.

Chapter Three will discuss a sound overlay of choosing a case study methodology to examine in depth a contemporary example of a highly ranked Connecticut high school library program. This chapter will also discuss the roles of quantitative and qualitative research methods in the case study. It will further explain and the importance of having both quantitative and qualitative data in order to provide validity and reliability found in the data. This methodology will effectively identify the variables while creating a better understanding of the perceived effect of the SLMP in the case study high school.

Chapter Four discusses the results obtained during the SHS case study. Many of the original elements of the original SHS has shifted over the years. These experiences have changed because of administrator policy and due to the individual needs of the teachers in the building. Therefore the results show how the SLMP has evolved as a result of those changes while addressing the current needs of students and faculty.

Chapter Five examines the need for conducting further research especially in the area of an ongoing case study of SHS to evaluate the long-term effects of its school library media program. This will be necessary to see how the evolution of the SLMP is impacting the academic climate of current students and teachers at SHS and possibly following SHS student's academic performance as they complete their first year as college freshman.

Definition of Terms

21st Century Learning Skills: Developed by the AASL to guide students through inquiry based learning techniques to identify, locate, evaluate and synthesize information. To become ethical users of information and use citations to provide proper credit for information they have used that does not belong to them.

iCONN: The Connecticut digital library system.

School library media program (SLMP): A school based academic library program that teaches library information literacy skills and provides relevant print, digital and physical resources to support the current academic program of a given school.

School library media specialist (SLMS): An individual who is state certified to teach library information skills to students in Kindergarten through 12th grade.

Chapter 2 – Literature Review

Introduction

Recent research in the United States has shown a direct connection between school libraries, school library media specialists (SLMSs) and student academic achievement (Achterman, 2009; Francis & Lance, 2011; Lance, 2002a; Lance & Russell, 2004). The seminal, statistically rigorous, ground breaking study performed on 221 Colorado public schools during the 1988-89 school year demonstrated the importance of not only school library media centers, but the impact of the library media specialist's role in student achievement (Lance, Welborn, & Pennell, 1990). Prior to 1988, studies in the United States showed no definitive correlation between student achievement and school library media centers (LMCs). These studies did not include the engagement of the SLMS in the learning process (Achterman, 2009; Lance & Hofschire, 2012; Small & Snyder, 2009). In today's data driven academic environments, academic achievement has become a critical component of ongoing school improvement (Fox, 2013). Student performance scores are predictors of future academic success and represent a direct correlation to the effectiveness of public schools found in every American community.

To gather a depth and breadth of information on this topic, I looked at peer reviewed journal articles and read their bibliographies to determine who the seminal contributors were in the field of library science in this particular area of research. My search led me Keith Curry Lance, who conducted groundbreaking research with the Colorado study of 221 public schools and their school libraries during 1988-89 (i.e., Lance et al., 1990). Since that study there has been significant research to examine the impact between academic achievement, school libraries, SLMSs, elementary and

secondary education, library role, library services, public schools, teacher and school librarian collaboration, student learning, scientifically based research (SBR) and school library media programs. I concentrated the majority of my research to cover 1980 through the present to capture studies that were done closer to the onset of the recent impact of technology in schools and their media centers. This provided progression from the inception of the first Colorado study on school libraries and academic achievement through present day in the United States.

Some researchers have made distinctions between school libraries (Achterman, 2009; Lance & Russell, 2004; Small, Shanahan, & Stasak, 2010; Small & Snyder, 2009; Small, Snyder, & Parker, 2009; Todd & Kauhlthau, 2004, 2005) and LMCs (Lance et al., 1990). Older studies commonly refer to school libraries as LMCs, whereas more recent studies refer to them as school libraries. Either term differentiates these libraries as being on site in a given school setting (Achterman, 2009; Lance & Russell, 2004). There are other terms found in the research used to describe a school librarian (e.g., SLMSs, certified school librarians, media specialist and teacher librarian), which are essentially school librarians holding a school library media teaching certification from a given state that covers grades K-12 (Monteil-Overall, 2005). State certification guarantees that these individuals possess an understanding of developmental ages of students and are able to deliver information literacy instruction and library skill instruction at appropriate grade levels. It also ensures that these individuals are able to identify and actively manage school library print and digital collections to provide a range of services and resources that reflect the needs of a given school and its students. For the purposes of this chapter I will use the term SLMSs to avoid confusion.

There is considerable evidence from library and information science professionals about the impact of school libraries on academic achievement, SLMSs on academic achievement, as well as the impact on student achievement through the collaborative interaction between the SLMS and teachers. In this chapter I will begin by introducing and identifying the specific terms associated with this subject, then I will discuss the importance of school libraries, SLMSs and how they impact academic achievement. Finally, I will describe three distinct types of school library studies conducted across the United States since the early 1960's to measure the impact on student academic achievement identifying several gaps in the literature prompting questions for further study.

Research About the Impact of School Libraries on Academic Achievement

It is clear from the various national studies since 1988 that school libraries have had a positive influence on academic achievement and the perception of the importance of SLMS to teachers, co-teachers and the administration (Lance et al., 1990; Lance & Russell, 2004). The researchers have employed both qualitative and quantitative surveys to gather data. These studies were performed examining individual states as well as multiple states encompassing both short-term and longitudinal studies (Achterman, 2009; Lance, 2002b; Lance et al., 1990; Small & Shananhan, 2010; Small & Snyder 2009; Snyder & Roche, 2008; Todd & Kuhlthau, 2004). This group of studies was particularly rigorous.

In their article about school libraries and academic achievement, Lance and Russell, (2004) explained the origin and nuances of SBR. The NRC defined educational research as meeting the following six criteria:

1. Pose significant questions that can be investigated;
2. Link research to relevant theory;
3. Use methods that permit direct investigation of the question;
4. Provide a coherent and explicit chain of reasoning;
5. Replicate and generalize across studies; and
6. Disclose research to encourage professional scrutiny and critique. (p. 13)

The United States Department of Education also held the expectation that SBR would conduct studies that contained rigorous observation and or measurement and data analysis that possessed accurate and reliable content. The research must have the ability to be replicated and its findings generalized across studies that are acceptable to independent sources. According the committee, these principles can be met using a range of research methods commonly found in educational research that address the following three major types of scientific questions: "What is happening? Is there a systemic effect? How is it happening?" (p. 14).

Content areas represent individual subjects that are taught differently in schools depending on the grade level. At the elementary level, Montiel-Overall (2005) noted that the classroom teacher teaches the following subject areas: math, English, social studies, history, geography, science, physical education, art, music, drama and foreign languages; whereas the middle and high school have specialist teachers that are allocated for each content area. By contrast, the school library curriculum is centered on the development of information literacy skills that include how to locate, access, evaluate and use information effectively from a wide range of sources in both print and digital format. "Information literacy is considered essential for students to succeed in school... through

these experiences students develops multiple cognitive processes, such as selecting, organizing, integrating, encoding, complex technical or physical processes" (p. 28). This theme also appeared during the Pennsylvania school study (Lance & Schwartz, 2012), "in particular, the evidence indicates that Inquiry-Based Learning provides students with a strong foundation of learning skills that will serve them well throughout their lives" (p. 166). Through this process students learn how to become effective communicators of relevant information to a wide variety of audiences through multiple formats across the curriculum.

Presence of School Libraries and Academic Achievement

Extensive research on effective school library programs has been conducted to explore its impact on student academic achievement in the United States. Much of the current literature in the field contains questions about the content of SBR and how much of this type of research has been used in recent studies to measure school library research (Lance & Russell, 2004).

The literature concerning the positive impact of school libraries on student academic achievement in United States public schools is clearly demonstrated from the early studies found that the presence of a well-equipped school library, that is centrally located in the school, had a profound impact on student academic achievement in elementary schools note-taking and library skills test scores (Ainsworth, 1969; Yarling, 1968). The presence of a centrally located school library also resulted in significant gains in the *Iowa Test of Basic Skills* (ITBS) at the elementary level (Wilson, 1965). However it was the Gaver (1963) study that set the precedent, and moved beyond the previous common weakness in earlier studies to establish a conceptual framework that created a

research design that based on causal modeling. These findings were reproducible and have been applied to the current studies that have been adapted by Lance and others in the field (Lance & Schwartz, 2012; Lance, Rodney, & Schwartz 2010; Small & Parker, 2009). Influenced by previous studies, the initial Colorado study conducted by Lance et al. (1990) asked two questions:

1. Is there a systemic effect?
2. And how is it happening?

That study provided the answers on this original research and demonstrated that when school libraries were well funded that student academic achievement was much higher regardless of the income level and education level of the community, as well as apply multivariate statistical analysis that gave rigor and possibly conviction.

The ground breaking study done by Lance et al. (1990) dealt with using 221 Colorado public schools as a composite as opposed to using students as only units of analysis to measure the relationship between school libraries and academic achievement. As was described in this study, between 1965 and 1972 fewer than 40 research studies were conducted in the United States that looked at the connection between school libraries and academic achievement. These were limited in scope and focused on smaller numbers of subjects, time limits and locations. The two exceptions were Gaver (1963), who examined data from 13 states, and Thorne (1967), who conducted a two-year longitudinal study of students leaving sixth grade and followed their progress into junior high school (Lance et al., 1990). These older studies established that the presence of school libraries and professional librarians contributed to stronger student library skills (Ainsworth, 1969; Becker, 1970; McConnaha, 1972). By contrast, Lance et al. (1990)

first studied the effect of expenditures on library materials and equipment and found a positive relationship with library media expenditures (LME) and reading scores in first through tenth grade. The size of the library staff and overall collection size was found to be a predictor of academic achievement. These were mapped to levels of funding and staffing rose and fell with other school programs in a given year.

Thus, school libraries are only as effective as their staff. Properly staffed school libraries allow SLMSs to provide more effective services and programs that are correlated with higher academic achievement in state tests (Achterman, 2009; Lance, 2002b; Small & Snyder, 2009; Todd & Kuhlthau, 2004). These results are particularly significant since these studies included various community variables such as poverty, ethnicity, parent education level, English language learners (ELL) and percentages of highly qualified teachers and average teacher salary.

Lance (2002b) examined the results of the impact of school libraries on student academic achievement in four studies from Alaska, Pennsylvania, Colorado and Oregon. These studies provide confirmation of the original Colorado study and expand on the original findings to examine if the results remain consistent from state to state, hold up over time, and if the relationship between school library media programs and student performance will still exist when a state standards-based test is substituted for the norm referenced test (e.g., ITBS). The statistically rigorous design of this study refuted the conventional wisdom that variables such as per pupil spending, teacher-pupil ratio, teacher characteristics and community demographics are predictors of student performance. Rather, Lance's analysis establishes that school-level library media variables only were those that predicted student performance. The study identified three

distinct requirements for successful student achievement; providing sufficient school library media funding for both professional and support staff, peer recognition and utilization by administration and faculty, leadership of SLMSs to establish such recognition if none exists and adequate school-wide technology resources. Similar findings appeared in the study on student achievement and motivation conducted in New York school libraries (Small, Snyder, & Parker, 2009).

Over the last decade studies have sought to examine the effect of school libraries on benefiting students through "conceptions of help" and defining the extent of these helps as understood by students and teachers in order to identify and focus on student learning beyond standardized test score achievement to address a standards-based education of accountability, performance and excellence in student performances. Findings of studies identified that effective school libraries are agents of up-to-date resources, information literacy development, knowledge construction, academic achievement, academic reading and personal development, technological literacy, just-in-time learning and rescue at student information crisis points and individualized learning (Achterman, 2009; Todd & Kuhlthau, 2004). The Idaho school library impact study discovered that when teachers experienced "…librarians as instructional colleagues and technology integrators, students are more likely to excel academically" (Lance, Rodney, & Schwartz, 2009, p. 6). Evidence of technology as an integral part of the school library began to appear especially in the area of student motivation and effective information literacy skills. Similar to older studies performed in 18 states this was the first of a three-phase study that investigated the impact of technology use by SLMSs (Achterman, 2009; Ainsworth, 1969; Lance 2002a; Lance, 2002b; Lance & Russell, 2004; Lance, Welborn,

& Hamilton-Pennell; 1990, Loerstcher & Land, 1975; Thorne, 1967; Todd & Kaulthau, 2005), the relationship between principals and school library media specialists and how students with disabilities are being served in well-staffed and well-funded school libraries (Small, Shanahan, & Stasak, 2010; Small & Snyder, 2009).

SLMSs and Academic Achievement

Historically, certified school librarians have always been an essential presence in school libraries especially when provided with adequate library staff consisting of a full-time clerical employee (Lance et al., 1990). Staff responsibilities included maintaining a learning environment that was quiet, orderly and provided students with print and visual research resources such as books, periodicals and databases that supported the school curriculum. This component was essential especially in an elementary library media program (Loertscher, Ho, & Bowie, 1987). When both these elements were present, the SLMS was able to provide a significantly greater level of service to students and staff (Loertscher & Land, 1975). This action has been found to have a positive influence on teachers especially at the high school level as demonstrated by teachers providing students with more assignments per class requiring the use of the school library (Wert, 1970). However, there was no longitudinal follow-up that analyzed student success across all grade levels using these significant independent variables.

The wide range of service address the academic needs of staff and students both on site as well as outside the school library. This empowered school library media specialists to address the needs of all students by participating in collaborative lesson planning, providing resources, teaching research and inquiry skills, providing instruction in vital knowledge-based 21st century skills including information, communication and

technology (ICT). SLMSs also encouraged the development of student reading interest and reached out to multiple stakeholders by providing extended services to the community at large (Francis & Lance 2011; Small, Shanahan, & Stasak, 2010). Adequate school library support staff has been found to be essential to provide critical clerical duties allowing the SLMS to effectively develop the content of the library. An effective SLMS is able to identify materials that align with school curriculum. This requires the time to collaborate with teachers and others in developing curricula. Collaboration is critical to shape the proper local collection in both print and digital formats (Lance & Hamilton-Pennell, 2001).

The academic impact of SLMSs on student academic achievement has been clearly demonstrated in a variety of studies conducted in public schools across the United States over the last two decades (Francis & Lance, 2011; Snyder & Roche, 2008). These results have been produced due to the interaction of SLMS with students not only through providing just in time reading and research materials and to encourage a love of reading (Todd & Kuhlthau, 2005), but also in SLMS's ability to assume a leadership role and cultivate a collaborative teaching environment within their schools (Cooper & Bray, 2011; Monteil-Overall, 2005). The value of this collaborative relationship produces a teaching environment of respect, collegiality and trust where shared planning, creation, thinking, team teaching and assessment can flourish and grow. However, this can only be successful if the administration is able to provide support and regular time in the schedule for this process to occur (Montiel-Overall, 2005). To further this process, professional development intervention workshops for teachers and SLMS's can provide even greater results. In a two-year study evaluating the impact of professional development workshops

for teachers and SLMSs at six elementary schools using teacher librarian collaboration (TLC) methods and teaching inquiry modules related to science standards and information literacy standards, demonstrated that professional development intervention increased the teacher librarian collaborative behavior interaction produced positive perceptions regarding the importance of collaborations for student academic success (Montiel-Overall & Hernandez, 2012).

Teacher-SLMS Collaboration, Co-Teaching and Curriculum Integration

During the last decade other studies in the field have been conducted throughout the United States to identify the connection between improved academic achievement and SLMS and teacher collaboration (Cooper & Bray 2011; Francis & Lance 2011; Lance & Hofschire, 2012; Montiel-Overall & Hernandez, 2012; Robins & Antrim, 2012; Small, Snyder, & Parker, 2009; Snyder & Roche, 2008). Teacher and SLMS collaboration has occurred through a variety of means depending on the interactive role of the SLMS. Several studies measured academic achievement mapped to having a library only, library with a librarian and a SLMS with adequate support staff. They also ranked and examined the efficacy (i.e., quantitative) and perceived efficacy (i.e., qualitative) of the teacher-SLMS relationship hierarchy of the SLMS as librarian only, as coordinator, as partner, as integrating instruction in a cooperative or co-teacher relationship and, finally, within an integrated curriculum (Lance & Hofschire, 2012; Montiel-Overall & Hernandez, 2012). The researchers implied that the higher the level of integration, both academic achievement and the perception of efficacy on the part of all stakeholders increased proportionally. The collaborative teaching model is a relatively new phenomenon as teaching expectations have been changed to meet the new Common

Core Standards in the United States. No longer teaching in isolation, today's teachers are expected to collaborate with their colleagues and make cross-curricular connections. Working in teams has been shown to be more effective because of stakeholder buy-in and is becoming the norm in today's successful schools (Johnson, 2012). The role model of the effective SLMS has changed as expectations for student achievement has increased in school communities across the country especially in light of the impact of high stakes testing and teacher evaluation. It is not unusual to see the SLMS being invited to assemble a data team to enable a school and district to enhance literacy reform (Steele & Boudett, 2008).

SLMS collaboration with teachers occurs when librarians and teachers come together to share information with one another in order to enhance student learning. This ultimately requires specific attributes that should be in place to allow full collaboration such as collegiality, respect, responsibility and trust, in order to plan an effective team teaching experience. This partnership provides the potential to influence student learning by creating strong mutually satisfying relationships with school librarians and teachers. This environment creates a strong sense of commitment to one another by influencing the quality of their instruction and content (Montiel-Overall, 2005). As a result students are being presented with different instructional and teaching styles gaining a deeper understanding of the instructional material. The studies indicated that students might develop a healthy sense of importance in a given project as they witness a commitment made by two teachers to collaborate on a project to provide a deeper and broader context for student information literacy (Monteil-Overall & Hernandez, 2012).

The importance of this partnership has been evident in more recent studies that have examined the impact of SLMSs' on students and the perceptions of teachers and administrators, thus providing evidence that schools who have certified school librarians will have students who will perform better on standardized tests and consequently the way in which other teachers and administrators view their teaching of ICT standards (Cooper & Bray, 2011; Montiel-Overall & Hernandez, 2012; Snyder & Roche, 2008). These studies examined both quantitative and qualitative metrics, such as how the students, teachers and administrator viewed the impact of the SLMS. This is critical as school library media specialists assume a larger leadership role within the school as curriculum designers, teachers and technology gurus (Francis & Lance, 2011).

Collaboration of SLMSs with teachers can take many forms. The study examining the response to intervention (RTI) model is one example. This study compared 62% of SLMSs were involved in the RTI process to a control group of 38% of SLMSs who worked in schools where RTI was being practiced but were not integrated into the program (Montiel-Overall & Hernandez, 2012). Outside training was used to prepare an effective team to lead their school of which four SLMSs took leadership roles in the start up and planning and curriculum committees. Respondents describe ongoing professional learning communities (PLCs) and committee meetings to continue learning opportunities as well as provide training for teachers thereby assuming a leadership role in the school. One respondent noted that RTI's focus is on Literacy thereby aligning it with the American Association of School Librarians standards. Many school librarians noted that data from RTI helped them identify a range of reading levels in which students were struggling. This study provided evidence of collaboration with other teachers in the

building further re-defining the teacher librarian role in the school community (Robins & Antrim, 2012). This collaboration format was further expanded on with the examination of teacher development intervention workshops for teachers and SLMSs at six elementary schools using TLC modules and teaching inquiry modules linking information literacy standards and science standards with Spanish speaking students (Montiel-Overall & Hernandez, 2012). The hierarchy of coordination, cooperation, integrated instruction and integrated curriculum showed an ever increasing improvement of result versus the control group of students that did not have the involvement of the SLMS as part of the RTI.

The positive correlation that an active SLMS program predicts improved academic achievement has become easier to substantiate as quantifiable evidence has become available. Unlike many previous snapshot studies, a more recent study was conducted in Colorado to measure academic results during a six-year period to determine predictors of student achievement (Lance & Hofschire, 2012). This study included poverty also as a candidate independent variable. The overriding result was that schools that maintained or gained an engaged certified school librarian demonstrated higher reading scores whereas those schools that lost their SLMS or did not have a certified school librarian student performance suffered regardless of poverty levels (Francis & Lance, 2011; Lance & Hofschire, 2012). Similar results were discovered during a recent study conducted in Philadelphia's schools during the 2012-2013 school year (Kachel & Lance, 2013). This study produced new and significant findings; vulnerable students were more significantly impacted by quality library programs than students generally and a direct correlation between flexible scheduling and writing scores as evidenced in the

Pennsylvania System of School Assessment data that showed student writing scores were "…two to five times more likely to score 'Advanced' in writing than students without such libraries" (p. 4). This finding among others suggested that the impact of full-time librarians created a differential impact on student writing scores suggesting a more reliable indicator of the student's mastery of 21st century learner and Pennsylvania Common Core standards.

Ultimately it is up to the SLMS to position themselves in a leadership role within the school. Rather than replicate the role of a technology coordinator the SLMS should instead pilot new initiatives within the building utilizing a small groups of teachers (Small, Snyder, & Parker, 2009). Once this is viewed as successful it has the capacity to encourage other teachers to want the same results in their content area inviting planned collaborative activities. By selecting one or two teachers with whom the greatest chance for success exists and then ensure that the teacher SLMS collaborative role has fulfilled the expectations of that given teacher (Cooper & Bray, 2011). It is only after this experience that other teachers will be encouraged to seek to participate in this level of collaboration with school librarians.

The importance of establishing the SLMS as an integral part of the teaching role within the school community was clearly stated by Cooper and Bray (2011). By establishing a strong relationship with building administrators, the SLMS should be viewed as a major component of the learning process establishing a formal structure for teacher/SLMS collaboration. This example was clearly illustrated when high SLMSs created a set of "…assured (guaranteed) experiences" in information technology literacy for students at Simsbury High School in Connecticut (Snyder & Roche, 2008, p. 24). In

this instance, the SLMSs and teachers of all freshman and sophomore students provided this experience in social studies and science. The major findings demonstrated a clear connection to academic achievement with a 5.7% increase in Connecticut Academic Performance Test scores in science during 2007-2008. Unfortunately, the authors did not identify this increase as mean-based or proportionate. Significantly, these authors voiced a need for teachers to create inquiry-based assignments rather than topic-based research assignments.

Finally, it is of the utmost importance that effective SLMSs establish a strong and positive relationship with the administration. Depending on the structure of the school this might be the principal or the assistant principal. When viewed as a major component in the learning process of the school, the administration will be the person(s) who provides the structure for collaborative planning across the curriculum enabling effective collaboration within the school environment to flourish. This means that the SLMS must be a visible leader, collaborator, teacher and administrator within the school (Lance, 2010). This is an ongoing and active role whereby the SLMS seeks out teachers with whom they can collaborate with successfully (Cooper & Bray, 2011) and ensure that the results meet the satisfaction of the teachers involved. The word of successful SLMS teacher collaboration will spread and be recognized in meetings and discussions with other colleagues. Most importantly, school library media specialist should be collaborating with one another as well as the public librarians in and across the districts to ensure that their programs reflect the instructional needs of their students, teachers, schools, parents and community.

Summary

There have been three distinct types of school library studies conducted across the United States since the early 1960's to measure the impact on student academic achievement by school libraries. The presence of certified school librarians, and the collaborative efforts of school library media specialists with classroom teachers have been shown to have a positive effect on student academic achievement in many states. This has been evidenced in the data provided from the following states: Alaska, California, Colorado, Connecticut, Idaho, Illinois, Indiana, Iowa, New Mexico, New York, Ohio, Oregon and Pennsylvania. These studies have used qualitative and quantitative methods to measure the effect of student academic achievement in the areas of state test results and general library skills as well as the perceptions of administration and faculty on the importance of the presence of a high quality school library media program within a school setting at the elementary and high school level. This information has provided a significant amount of evidence to support the historical significance of school libraries and SLMSs as well as help to define the ongoing role of the school library and SLMSs in today's school libraries. Additionally it provides information relative to the impact on basic skill tests in the previously mentioned states.

There are several gaps within the research corpus. First, some studies do not distinguish between mean result and proportionate result. Refreshingly, there are some studies that do (Francis & Lance, 2011). That is, consider that district Common Formative Assessments (CFA) reveal that subject matter areas (e.g., science), within a collaborative environment produce a mean learner score of 60 out of 100 points on a given CFA, whereas the group without the collaboration scored 40 out of 100 points. The

difference between them is 20, but the significant proportionate improvement is 50% (i.e., 20 is 50% of 40, not 20%). Emphasizing proportionate results is a powerful rhetorical device for all stakeholders that may help dispel conventional opinions. Relying on the proportionate result may clearly highlight areas for further investment and expansion of the coordination to other subject matters or grade levels for student improvement. Second, there is little current analysis of the role and effect of the SLMS integrating new technologies into their teaching practice. Third, there is no "meta-study" that statistically examined qualitative and quantitative research, that is, analyzes the increase of academic achievement as the "SLMS hierarchy" is realized, mapped to the attitudes and views of the teachers, SLMSs, administration, community and, most importantly, students. The importance of such correlation can act as a calculus for programs to ensure resources are deployed effectively, change management with all stakeholders can take place successfully, community involvement is an informed one and, most importantly, student achievement and literacy keeps increasing. Finally, there are currently no rigorous analyses being done in Connecticut schools about middle school library collaboration and impact on student academic achievement on district and state level assessments that are research based.

This review of literature has provided valuable insight into the advantages of effective school libraries and relationships between certified SLMSs and student academic achievement across the United States. However, there is no apparent current research on Connecticut middle school student academic performance in district academic assessments particularly in the area of SLMS and teacher collaboration at the middle school level. This gap in the literature has prompted the following questions for

further research and consideration. First, can SLMS-teacher collaboration in academic courses (e.g., science), at the middle school level impact student achievement in district level assessments? Second, how does SLMS-teacher collaboration in the middle school improve student outcomes in research-based assessments in science or other content area subjects? Third, could the SLMS-teacher collaboration impact middle school Connecticut Mastery Test scores in science? Fourth, are the middle school results a predictor for scores in science on the high school level? Finally, is there a connection between the use of specific library technology tools and the impact on district level assessments at the middle school level?

Further rigorous research might provide an exemplar to gain support by all stakeholders and a powerful change agent for middle school settings where SLMS and successful teacher collaboration has not been practiced. Evidence of successful SLMS and teacher collaboration for the benefits of students has been demonstrated at the high school level only in Connecticut (Snyder & Roche, 2008). With the support of administrators, will successful collaborative efforts between SLMSs and teachers, especially at the middle school core content area level, produce higher achieving students that are ready to enter high school and become successful academically?

Chapter 3 – Methodology

Introduction

The purpose of this study was to explore the characteristics of a previously identified successful school library media program (SLMP) in a Connecticut public school. This study addressed the following research questions:

1. What was the original vision for the SLMP?
2. How was the vision implemented in the school?

The primary goals of this research were to answer these questions by conducting a single case study to examine the nature of this previously identified SLMP so that promising practices identified from this study could be applied to other SLMPs in Connecticut public schools.

Research Design

Creswell (2014) defined a case study as "…an in depth exploration of a bounded system (e.g., activity, event, process or individuals) based on extensive data collection" (p. 465). He further illustrated the following types of case studies employed by researchers, such as intrinsic, instrumental and collective. Yin (2014) further discussed the valuable contributions of the case study as a research method in education and school performance while retaining a "…holistic and real-world perspective" (p. 4). Since my research questions sought to identify a clearer explanation and understanding of how the function and application of the SLMP within this school has impacted student learning, case study research was appropriate as the primary framework to provide an in-depth description of this social phenomenon (Yin, 2014).

The choice of an instrumental case study methodology was appropriate because according to Creswell (2014) "case study researchers may focus on a program, event or activity involving individuals… an in depth exploration of the implementation of a new program… because it serves to illuminate a particular issue" (p. 465). My goal was primarily instructional because I sought to examine a specific school and the role of its SLMP which was the focus of my qualitative study as "…it serves the purpose of illuminating a particular issue; the impact of the SLMP with a case the Connecticut public school" (p. 465). This particular Connecticut school had taken its school library media program and created "assured (guaranteed) experiences in information and technology literacy" (Snyder & Roche, 2009, p. 23), and fully integrated it across the curriculum that resulted in a significant increase in student achievement scores on the 2008 Connecticut Academic Performance Test (CAPT).

Yin (2014) further described the scope of a case study as being an empirical inquiry when it not only investigated a real-world, contemporary phenomenon, but when "…the boundaries between the phenomenon and the context may not be clearly evident" (p. 16). Yin further stated that one rationale for the selection of a single-case study was that it could represent the critical test of a significant theory; for example that the full integration of assured (i.e., guaranteed) experiences in information and technology literacy across the curriculum can result in ongoing student achievement in Connecticut public schools through a detailed analysis of an individual case (i.e., a specific suburban Connecticut public school). Creswell (2014) stated that single case study could incorporate smaller cases within the larger case that provide context for the larger case. In the present study, the smaller cases that constituted the context for the larger case were

the administrator(s), faculty and librarians at Simsbury High School (SHS). It was my research purpose to be able to more clearly identify the boundaries between the phenomenon of assured (i.e., guaranteed) experiences in information and technology literacy across the curriculum and the context of ongoing improvement in student CAPT achievement scores.

The Case

The case for this study was a school located in Simsbury, Connecticut (i.e., approximately 12 miles northwest of Hartford). Simsbury was situated in a New England suburban setting with a population of approximately 24,500. SHS was a four-year comprehensive high school with 1,536 students. *Simsbury High School Profile 2013-2014* noted, "based on national rankings, it was one of the most competitive high schools, public or private, in the country" (SHS, 2014, p. 1). SHS was accredited through the New England Association of Schools and Colleges, and it offered a wide range of curricular and co-curricular programs; as well as courses in college and career preparation to students in grades 9 through 12.

At the time of the study, SHS employed 138 faculty members – including one principal, three assistant principals, 15 department supervisors, eight school counselors, and one athletic director (Simsbury, 2015). Noteworthy academic staff recognition had included Fulbright awards, National Endowment for Humanities fellowships and elections to professional association leadership.

The students represented a broad socio-economic profile as SHS participated in the School Choice program with the City of Hartford. All students met the 25-credit

graduation requirement and performance standards in reading and writing across the disciplines, as well as math and science standards on CAPT or alternate assessments.

Data Collection Methods

Yin (2014) advocated for the use of multiple sources of evidence in case studies as a major strength citing "…case studies using multiple sources of evidence were rated more highly, in terms of overall quality, than those who relied on only single sources of information" (p. 119). To achieve this I intentionally selected three educator groups to survey and interview about the impact of the cross-curricular integration of the five assured experiences in information and technology literacy that helped improve student performance on the CAPT test. To further address the research questions, I designed a study that built upon the statistical evidence from the SHS study with qualitative data in an attempt to uncover these perceived relationships. My data collection methods embodied both qualitative and quantitative instruments that included surveys, interviews and documents. I sought permissions from the principal of SHS during July of 2015 to conduct this case study during the fall of 2015.

Surveys

According to Yin (2014) surveys were relevant for how and what research questions, require no control of behavioral events and focuses on contemporary events. Yin stated that these methods are particularly helpful "…when the research goal is to describe the incidence or prevalence of phenomenon or when it is to be predictive about certain outcomes" (p. 10). Creswell further reiterated that "surveys help identify important beliefs and attitudes of individuals… provide useful information to evaluate programs in schools" (p. 376). As this case study examined one point in time, it therefore

utilized a cross-sectional survey design. These survey samples were taken from three distinct populations; administrators, high school teachers and SLMSs. The data provided background information from respondents about their highest educational attainment, the year in which the degree was earned, the years in which they began their careers as teachers, administrators, and/or SLMSs. The survey data further provided an evaluation the SLMP within SHS to address the extent to which the assured experiences in information and technology literacy are valued by administrators and teachers and examined the current relationship between library practice and collaboration and continued improvement in student performance on the CAPT. These surveys examined the current attitudes, perceptions and practices of these three groups regarding their SLMP.

The questionnaires were deployed during the first week of October 2015 and operationalized over a four-week period using a sliding scale of web-based and mailed surveys to promote a higher response rate from participants. The web-based surveys were sent by email through the school library media center to be disseminated to the selected respondents from each of the three groups by the main office staff at SHS. This protocol was requested by the new principal to streamline the delivery of the surveys to his staff and protect their privacy. The questionnaires employed a system of pre-notifying participants that they would be receiving a questionnaire and how to access the survey instrument, and in the case of the mailed surveys, a cover letter enclosed with the survey to invite them to complete the questionnaire and employ a first and second mailing of the survey with follow-up phone calls and emails to non-respondents to remind them to complete the questionnaire before the end of October.

These surveys instruments were modeled after reliable and proven qualitative survey instruments used in both the Pennsylvania School Library Project study conducted by Lance and Schwartz (2009) and the Idaho School Library Impact Study conducted by Lance, Rodney and Schwartz (2009). Both surveys were adapted for this case study and renamed Simsbury High School Case Study: Administrator Survey – School Library Media Program, Simsbury High School Case Study: Teachers Survey – School Library Media Program and Simsbury High School Case Study: Library Media Specialist/Library Aide Survey – School Library Media Program respectively. These surveys sought to examine the perceptual beliefs of administrators, faculty and school library media staff on the collaborative role of the school library media program and the role of its staff. The structure of the questionnaires used a combination of closed and open-ended questions. These surveys addressed three sets of standards in the survey questions: Standards for the 21st Century Learner, the National Information Literacy Standards established by the American Association of School Librarians (AASL), and Connecticut Common Core standards.

Interviews

Each survey included a request to conduct a one-on-one interview with willing respondents from the various sample groups. Creswell (2014) reminded us that one-on-one interviews provide opportunities for interviewees to ask additional questions beyond the initial questions provided on the initial survey and for asking "sensitive questions" (p. 384). According to Creswell they also have a higher response rate as they are scheduled in advance with sample participants feeling more "obligated to complete the interview" (p. 384). One of the negative aspects of this system is that it doesn't protect the

anonymity of the participant that could lead to researcher prejudice of participant answers either "…knowingly or unknowingly, through comments or body language" (p. 384). Yin (2014) cited interviews as an essential component in case study evidence. "Well-informed interviewees can provide important insights… short-cuts to the prior history of such situations, helping you to identify other relevant sources of evidence" (p. 113). I sought to conduct short in-depth interviews with individuals and record responses to semi-structured questions to enhance the interpretation of the survey results by providing insight into the overall perceptions, practice and performance of the SLMP and the performance of SHS students over time.

To provide historical context, I sought to interview staff to clarify the prior history from the initial study in 2008 and identify other possible sources of evidence. I preferred to conduct these in person to ensure that respondents are in their preferred comfort zone. A second option was a telephone interview. Both these measures provided a human component that was vital to this case study. I recorded and transcribed these interviews to preserve the integrity of the data. This required prior permission from the respondents before deploying this method. Recorded data was later transcribed and the sound files destroyed to preserve the privacy of the respondent.

Documents

This case study examined public documents from SHS to address the questions in the research purpose. These included SHS curriculum maps, library manuals and schedules and other artifacts that provided additional evidence of current SLMP integration and academic practices to better interpret and gain a deeper understanding of the findings in the quantitative and qualitative data.

According to Creswell (2014), documents "…provide valuable information in helping researchers understand central phenomena in qualitative studies… and provide the advantage of being in the language and the words of the participants, who have usually given thoughtful attention to them" (p. 223). A distinct advantage for this case study was their immediate availability for analysis.

Data Analysis Methods

Yin (2014) cited that case study research usually dealt with a broad array of evidence as opposed to other research methods thereby allowing for a "…broader range of historical and behavioral issues" and more importantly providing the development of converging lines of inquiry (p. 120). Patton (2002) discussed the evaluation of data sources as one form of data triangulation. Yin (2014) defined this process as "…collecting information from multiple sources but aimed at corroborating the same finding" (p. 121); thereby strengthening the construct validity by providing more accurate case study conclusions. Riege (2003) previously advocated for use of multiple sources of evidence during the data collection phase to provide additional protection against researcher bias.

Qualitative Data Analysis

Ruona (2005) advocated a four-stage process of qualitative data analysis for use in case studies that include: data preparation, familiarization, coding and general meaning. Ruona (1999) and (2003) further cited the importance of beginning the data analysis process with the first piece of data that is received instead of waiting until after all the data is collected contending that conducting early analysis offers the opportunity to "understand what is emerging in the data, reconstruct the data as needed, and inform

your study as it progresses" (Ruona, 1999, p. 237), suggested the utilization a table format with the search and replace features of *Microsoft (MS) Word* as a tool for effective qualitative data analysis. Interview and subsequent field notes were transcribed and formatted into a six-column table and saved as individual files in a folder. Participant names were replaced with pseudonyms and other identifying material was removed from the actual transcripts. An original transcript folder was established to store transcripts during the course of the case study but was later destroyed at the conclusion of the project.

Ruona (2005) further advised that effective qualitative data analysis requires "immersion in the collected data, openness and conceptual flexibility to perceive the patterns, and a great deal of information processing" (p. 236). The act of comparing participant survey and interview data to actual SHS created curriculum documents was conducted on the premise that this action might provide further evidence and clarity of the interrelationship between the cross-curricular integration of the five assured experiences in information and technology literacy and improved student performance at SHS. Ruona (2005) advocated for the use of a coding system evolving directly from the data analysis to stay as close to the voices of the participants as possible. Therefore data codes were established using a combination of data driven codes emerging directly from the themes and prior research-driven codes that provided a way to look more effectively at the data.

Lincoln and Guba (1985) contended once we have determined the analysis is complete it is time to interpret the data. Wolcott (1994) reminded us "when the claim is made that an interpretation derives from a qualitative inquiry, the link should be relevant

and clear" (p. 245). Brown (1989) further cautioned to "continually respect the meaning of the participants and provide full disclosure of the basis for any claims you make" (p. 245). During the process of moving from generalizing into theorizing it was imperative to guard against forwarding my own argument and instead ensured that the meaning could be directly linked to the data.

Quantitative Data Analysis

By contrast, quantitative data provided from the cross tabulated data provided statistically measureable evidence to demonstrate a connection between the SLMP and educator group perceptions, beliefs and actual practice at SHS. Analysis of survey data using *MS Excel*'s correlational tool provided statistical evidence to help to identify potential interrelationships between variables of the administrators, teachers and librarians perceptions and experiences related to key library practices, library activities, the efforts of the SHS library programs to teach 21st century learner and Connecticut Common Core standards and how essential or desirable administrators considered selected elements of a district wide school library infrastructure.

Two statistical procedures were used to analyze data from the three educator groups. Simple frequencies of numbers and percentages of cases provided each possible response were determined for each question. The value response scale were essential, highly desirable, desirable, unnecessary, or don't know or need more information. The response scale for teaching 21st century learner and Connecticut Common Core standards was excellent, good, fair, poor, or don't know or not applicable. School Library Infrastructure response scales was essential, highly desirable, desirable, not desirable, and don't know. A numeric scale was assigned to each categorical response of essential as a

"5" to don't know as a "1". Creswell (2014) advocated that a good rule to follow is "the more positive the response or the higher or more advanced the categories or information, the higher the assigned number" (p. 176). The response scale for frequency was at least weekly, at least monthly, at least once per semester, at least annually, and rarely or never. Merriam (1998) argued comparisons are valuable when "constantly made within and between levels of conceptualization until a theory can be formulated" (p. 159). Simple frequency of selected roles, practices and responses from various educator groups were compared to provide further data to consider.

During this case study, multiple sources of convergent evidence supplied by qualitative and quantitative data findings sought to strengthen the construct validity of the interrelationship between the cross-curricular integration of the five assured experiences in information and technology literacy supplied by the SLMP and improved student performance at SHS.

Reliability and Validity

Creswell (2014) reminded us that reliability and validity are inter-connected in complex ways sometimes overlapping and at others considered mutually exclusive. Reliability is a measure of consistency that infers scores from a given instrument remain stable and consistent regardless of how many times the instrument is administered and when the instrument is administered. Whereas validity concerns "…the development of sound evidence to demonstrate that the test interpretation matches its proposed use… to the degree to which all of the evidence points to the intended interpretation of test scores for the proposed purpose" (p. 159). Therefore the ultimate condition exists when scores are found to be reliable and valid.

Reliability

To ensure reliability Yin (2014) cited the need to establish a case study protocol. "The protocol is a major way of increasing the reliability of case study research and is intended to guide the researcher in carrying out the data collection from a single case study" (p. 84). According to Yin a case study protocol should contain four sections: an overview of the case study, data collection procedures, data collection questions and a guide for the case study report. These elements are important for two reasons: 1) to ensure the researcher remains targeted on the topic of the case study, and 2) the preparation of the protocol provides an opportunity to anticipate possible problems including the format of the completed case study report. Creswell (2014) advocated overwhelmingly for selecting an existing instrument and "…either modifying it or using it in its original form" (p. 157). Creswell further cited the importance of obtaining scores from an instrument that are "…stable and consistent… when an individual answers certain questions one way, the individual should consistently answer closely related questions in the same way" (p. 159). According to Creswell researchers may choose any one from five options to establish the reliability of a given instrument: test-retest, alternate forms, alternate forms and test-retest, inter-rater reliability and internal consistency. Examining related studies in this field revealed two survey instruments first utilized by Lance, Rodney, and Schwartz (2010) in a study in Idaho, and a subsequent version used by Lance and Schwartz (2012) in a study in Pennsylvania. Both instruments measured attitudinal perceptions of administrators, teachers and library staff on school library media programs and student performance that met the alternative forms of reliability criteria. According to Creswell (2014) "…both instruments represent the same

universe or population of items… therefore providing evidence that both instruments are equivalent and… intended to measure the same variables" (p. 160). Both instruments contained questions that had been utilized in two separate studies to measure similar attitudinal and perceptions, they were within the five year band of accepted currency, questions on the instrument provided "…good and consistent measures" (p. 159). The information regarding the reliability from previous uses of the instrument aligned with the content of the current case study and contained procedures for recording the data that aligned with the research questions contained within the SHS study.

Validity

Yin (2014) suggested utilizing multiple sources of information to provide developing convergent evidence aids in data triangulation further strengthening the 'construct validity' of a given case study. "The multiple sources of evidence essentially provide multiple measures of the same phenomenon" (p. 121). Creswell (2014) further cited the importance of examining the scores from the instrument to establish validity. He specified five categories of evidence based on "test content, response process, internal structure, relations to other variables and the consequences of the instrument" (p. 162). For the purposes of this case study, two categories were examined: 1) evidence based on internal structure, and 2) evidence based on relations to other variables. Evidence based on internal structure sought to identify the "…relationship among test items, test parts and the dimensions of the test [and evidence base on relations to other variables seeks to establish the]… evidence of the relationship of the test scores to variables external to the test" (p. 163). According to Creswell (2014) the use of interval scales in educational research "…provide the most variation of responses and lend themselves to stronger

statistical analysis" (p. 167). Both survey instruments from the Pennsylvania and Idaho studies contained adequate scales of measurement utilizing nominal scales to describe traits and quasi-interval scales to rank the implied order of importance of attitudinal measures.

Summary

My research purpose sought to explain the phenomenon of how the function and application of the SLMP within a Connecticut high school had impacted student learning. The case study examined this phenomenon by conducting a case study of SHS in Simsbury, Connecticut. I elected to gather multiple sources of evidence that included qualitative and quantitative data collection methods. This data provided converging lines of inquiry and sought to corroborate the same finding thereby producing more accurate case study conclusions. Reliability was provided during the study using the case study protocol to ensure the focus of the case study. Validity was provided through the use of proven instruments that measured evidence based on internal structure and evidence based on relations to other variables.

Chapter 4 – Results and Discussion

Introduction

This chapter addresses the results generated from observations, artifacts, surveys and interviews that were gathered from administrators, teachers and school librarians at Simsbury High School (SHS) to address the following research questions.

1. What was the original vision for the school library media program (SLMP)?
2. How was the vision implemented in the school?
3. How prevalent is collaboration between the school library media specialists (SLMS) and faculty?
4. How has the SLMP impacted the school learning culture?

This chapter discusses the findings from the case study research by reviewing the responses from three separate surveys of administrators, teachers and librarians. Some background data was gathered from each group as well as their perspectives on SHS library practices and activities, the role of the SLMS, how well the SLMS helps students achieve academic standards, and their assessments of the value of statewide school library infrastructure. Two sets of standards were used in the questions: the Connecticut Common Core Standards and the Standards for the 21st Learner, the national information literacy standards established by the American Association of School Librarians (AASL). Additional information was gathered through on site and telephone interviews with respondents from each group as well as on site observations and artifacts gathered from SHS.

Themes that emerged from the data were the SLMP as a critical cross-curricular component of student academic success, SLMSs were viewed as essential technology resources for teachers and administrators, resources and curriculum design, SLMSs were viewed as highly respected collaborative partners and the importance of strong library infrastructure ensures the continuation of an effective SLMP that reflected the goals of the district.

What Was The Original Vision For The SLMP?

According to the literature, the SHS staff and its district superintendent began working together in 2005 to examine a new direction to meet the demands for the existing library (McCrea, 2011). After much discussion, key questions emerged around "…the need for a physical library in the information age, the role that books would play in the new facility, and how media literacy would be taught to students" (p. 2). After examining multiple options a district decision was made to adopt a hybrid approach that incorporated both modern and traditional elements or the new, centrally located 1,500-square-foot 2005 SHS library media center renovation. A reading consultant and intervention teacher commented, "it was Janet, who had a vision for a very different school library program; she was on the cutting edge of that, very bright and the rest of us didn't get it." Careful consideration had been given to the new Connecticut standards by the SLMSs and how 21st century learning skills could be effectively infused into the high school curriculum.

> The Simsbury High School Library Media Center program is committed to excellence in education by helping students achieve state and national standards in information literacy and technology literacy. The program helps students

> become active readers of print and online information and become effective users of data and information. The program is dedicated to developing lifelong learners, by providing flexible and equitable access to print and online resources. (Simsbury High School, 2014)

The SHS library media center mission statement reflected the essential themes of collaboration and integration of the library media program across the school's curricula and its impact on student academic success.

The theme of the SLMP as an essential element in student academic success was evident in the creation of the library media curriculum content of the "five assured experiences" developed during this period (Snyder & Roche, 2008, p. 24). The information and technology literacy skills being taught in social studies and science library classes were designed to help students become "effective and efficient users of information" and prepare them for the annual College Aptitude Placement Test (CAPT) (p. 24). According to current SHS faculty interviews some of this original material remained at the SHS library website. In an on site interview, social studies teacher #1 commented,

> They began the movement to integrate and align AASL 21st Century Information Literacy Skills with the scope and sequence for social studies, science and English curriculum. These assured experiences were developed during 2006-2008 to ensure that students got complete research skills that aligned with each subject area.

Appended curriculum scope and sequence artifacts depicted robust research content and the infusion of technology and information literacy skills throughout the curriculum units

indicated a strong collaborative theme between library media staff and faculty in aligning curriculum and co-teaching in these subject areas. Documents from this period included a rubric for conducting inquiry oriented research, curriculum integration charts grades 9-12 for science, social studies and English, one-dimensional charts for information and technology literacy curriculum for grade 9 and 10 and science curriculum containing embedded CAPT performance tasks reflecting the following information literacy skills; information seeking strategies, location and access, ethical use of information, synthesis and evaluation.

How Was The Vision Implemented In The School?

Recent case study interviews and survey results from administrators, teachers and SLMSs reflected a significant shift in the implementation, focus and expectation of the vision of the SLMP since 2008. The re-design of the school library clearly provided the physical structure and necessary human and technology resources to support the vision of the SLM program. These changes were consistent with the research literature conducted on school libraries. Properly staffed school libraries have allowed SLMSs to provide more effective services and programs that are correlated with higher academic achievement in state tests (Achterman, 2009; Lance, 2002b; Small & Snyder, 2009; Todd & Kuhlthau, 2004). These results are particularly significant since these studies included various community variables such as poverty, ethnicity, parent education level, English language learners (ELL) and percentages of highly qualified teachers and average teacher salary.

Interview data from respondents revealed both structural and administrative changes were made to implement this vision. However, recent SHS case study survey and

interview data from all three groups indicated a strong perception of SLMSs as being a critical technology resource for teachers and administrators at SHS. This perception was consistent with the literature concerning the positive impact of school libraries on student academic achievement when they are well equipped, well staffed and centrally located in the school (Achterman, 2009; Small & Snyder, 2009). Observation data from the case study noted the current SHS library media center includes two computer labs that can accommodate class sizes from twenty to thirty students as well as three conference rooms, storage rooms for audio visual (AV) equipment, an atrium seating area, sectional seating areas for students, individualized work stations, work spaces that allow for small group discussions, printing stations and a large circulation desk provides a centralized hub for paraprofessional and parent volunteer staff on a daily basis.

Administrative policy changes were indicated in interview data. Science teacher #1 who had been on staff since 2006 noted, "at present we have shifted away from the mandate of the 'assured experiences' it's voluntary now but the librarians are proactive." Social studies teacher #1 explained that previously the assured experiences were supported during that period with good results until there was push back from some of the staff resulting in a breakdown of the top down push from a "lack luster administration whereby the assured experiences became voluntary. Maureen and Janet's hands were tied by the administration that was in place at the time." Interview data and survey results revealed that the retirement of the previous SLMSs and administration resulted in further changes to the SLMP.

According the interview data from current SLMSs the previous librarians had individually selected specific faculty and departments to work with. The new voluntary

library policy created an initial drop in department collaboration with the library that resulted in project overload in certain subject areas. In contrast, the current staff elected to share the responsibilities in the library media center thereby enabling them to establish a relationship across the entire faculty and the ability to address the research and technology needs of all the departments. This practice was similar to that indicated in the literature outlined by the research conducted by Small, Snyder, and Parker (2009). This literature suggested that SLMSs position themselves in a leadership role within the school by piloting initiatives within the building using small groups of teachers. Successful SLMP initiatives provide a positive incentive for more teachers to seek similar results in strengthening their content area. Despite the slow adjustment from some teachers, the new system has enabled the SHS library to provide an increase in support across the departments.

Interview data from another science teacher who has been on staff since 2006 noted, “we have shifted away from the mandate of the assured experiences; it’s voluntary now but M and J are proactive” (science teacher #1). Interviews with current library media specialist #2 further corroborated the dissolution of the original assured experiences. “When M and I arrived on the scene in 2011 and 2012 there were only a few science classes coming into the library. During the 2012 2013 school year we began to develop new skill sets for teachers”. SHS survey data indicated a close correlation in all educator groups at SHS.

Observation and interview data noted that particular periods during the day constitute heavy student traffic in the library. “Students are lined up at the door in the morning waiting to get in. They utilize the printers and computers to complete

assignments and submit work to *Turnitin*" (science teacher #2). Students were observed working in small groups and individually at computer consoles. According to library support staff, students stay after school and complete work before after school sports programs begin. By contrast SLMSs are spending more time with faculty providing professional development using new digital teaching tools and resources in an effort to keep faculty abreast of the newest and most reliable teaching technologies. According to interview data this was being provided by SLMSs and shopped by teachers directly to SLMSs. According to one social studies teacher, "they have so much more expertise in picking resources and are able to design a webpage for each of my classes with thoughtful and relevant resources. Their scaffold orientation lessons really prepare the students to succeed in my classes" (social studies teacher #2). Current teacher websites at the library page are password protected and include content and resources created through teacher/SLMS collaboration.

Administrative policy changes were indicated in interview data; a science teacher #1 who has been on staff since 2006 noted, "we have shifted away from the mandate of the 'assured experiences'… it's voluntary now but the librarians are proactive". Social studies teacher #2 explained that the assured experiences:

> …were supported during that period with good results until there was pushback from some of the staff. There was a breakdown in the top down push from a lack luster administration whereby the assured experiences became voluntary. Maureen and Janet's hands were tied by the administration that was in place at the time.

Interview data and survey results revealed that retirement of the previous SLMSs and administration resulted in further changes to the SLMP.

According to interview data from one of the current SLMSs, the previous SLMSs selected specific faculty and departments to work with resulting in overload and isolation for individual SLMSs and faculty depending on the time of year and the project load. By contrast the current staff elected to share the responsibilities in the LMC thereby enabling them to establish a relationship across the entire faculty and the ability to address the research and technology needs of all the departments. According to one SLMS, this departure from the previous system has been difficult for some teachers to accept but overall the new system has enabled them to be more effective in the LMC. Interviews with both library media specialists further corroborated the dissolution of the original "five assured experiences" after pressure from the faculty to discontinue the mandate.

> The assured experiences were basically required and enforced as a top down decision. After Snyder and Roche retired this went by the wayside. When M and I arrived on the scene in 2011 and 2012, there were only a few science classes coming to the library. During the 2012 and 2013 school year we began to develop new skill sets for teachers. (SLMS #2)

Survey and interview data showed that SLMSs were spending more time with faculty and providing professional development that used new digital teaching tools and resources in an effort to keep faculty abreast of the newest and most reliable teaching technologies. According to interview data the professional development that was being provided by SLMSs and shopped by teachers directly to SLMSs. Teachers web sites at the SHS Library site were password protected and included content and resources that were a

product of teacher/SLM/S collaboration. According to social studies teacher #2, "they have so much more expertise in picking resources and are able to design a webpage for each my classes with thoughtful and relevant resources. Their scaffold orientation lessons really prepare students to succeed in my classes." Recent SHS survey data identified a close correlation in all educator groups of essential roles for SHS school library media specialists (SLMS) across the three educator groups of administrators, teachers and SLMS.

The evolution of the SLMP is illustrated in the tables below taken from survey data on the current role of the SLMSs.

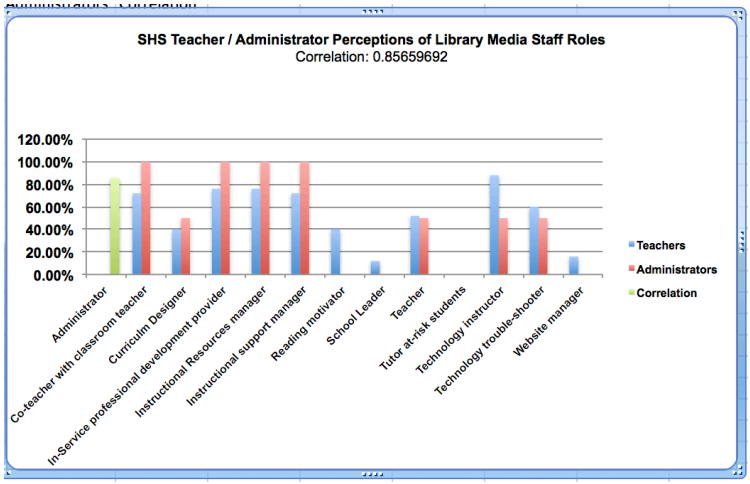

Figure 1. Teacher Administrator Perceptions of Library Media Staff Roles.

Figure 1 depicts a close correlation of 0.856 between administrator and teacher groups especially in the following roles of co-teaching with the classroom teacher, providing in-service professional development, instructional resources manager, instructional support manager, technology support manager and technology trouble-shooter.

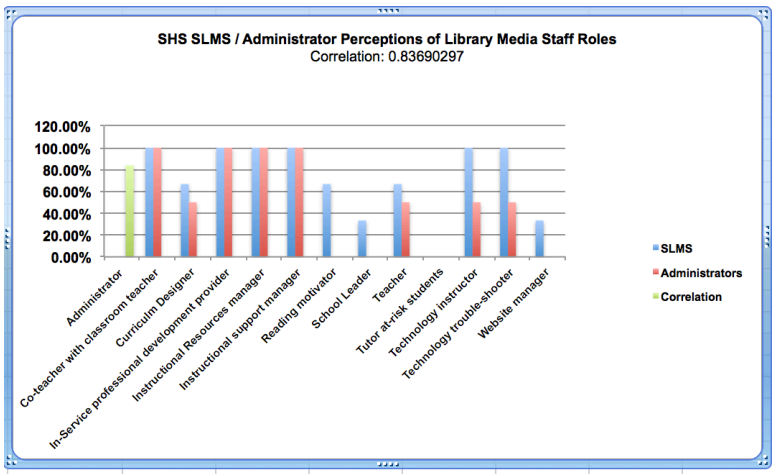

Figure 2. SLMS Administrator Perceptions of Library Media Staff Roles

Figure 2 showed similar themes emerging in the SLMS and administrator role perceptions for library media staff. In this example co-teaching with the classroom teacher, in-service provider of professional development, instructional support manager, technology instructor and technology trouble-shooter top the list of roles emerging from the data with a correlation value of 0.836. There has been a clear shift in the role of the library media center staff since 2008.

Technology has had a large influence in the way that SHS administrators and teachers have come to view the role of the SLMC staff. One hundred percent of school library media staff views their main roles as providing professional development, instructional support, technology instruction and technology trouble-shooting that closely aligns with that closely aligns with the view of the SLMC staff.

During a recent visit to SHS and subsequent interview with the new Principal immediately pointed to the importance of technology support coming from the LMC.

> I have not had an opportunity to spend much time in the library media center as my position just began in late July. However I can tell you I depend on them heavily to support the technology needs of teachers and students in the school.

When questioned about the actual library program he was unable to offer much insight on the actual content of the program and instead elected to describe the district wide technology day that was hosted by the SHS SLMP about which he was more familiar with. “Have you heard about the Technology professional development day that they run for the district each year? It’s impressive, they hold workshops all day for teachers from all over the district, we are so lucky to have them” (principal).

The technology theme appeared in interview data from SHS teachers as well. An educational technology department teacher commented:

> SLMSs are technology facilitators who are instrumental in providing guidance for staff and students and I would have to say that their greatest asset is as an adult coach for teachers and they most definitely play a role in developing teacher resources.

Technology has played a significant role in the way in which the SLMSs are interacting across the school at large.

How Prevalent Is Collaboration Between The SLMSs And Faculty?

Both administrators who completed the survey ranked co-teaching between teacher and school librarian and the school librarian as essential. An administrator offered this comment, “our library staff have greatly expanded their role here especially in the area of teacher collaboration specifically around research assignments and projects. Teachers report their tremendous strength in co teaching in those areas” (assistant principal). Both agreed that meeting with the principal regularly and addressing teacher librarian collaboration in annual evaluations was desirable.

According to the literature it is of the utmost importance that SLMSs establish a strong and positive relationship with the administration. When viewed as a major component in the learning process of the school, the administration will be the person(s) who provide the structure for collaborative planning across the curriculum enabling effective collaboration within the school environment to flourish as stated by Cooper and Bray (2011) and ultimately reflect not only the instructional needs of the school but the surrounding community as well.

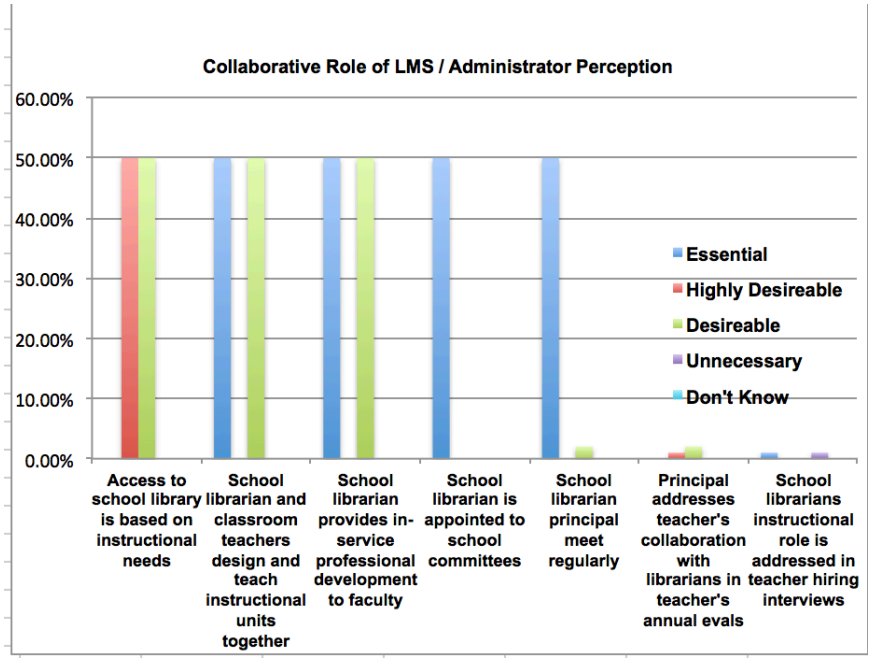

Figure 3. Administrator perception of collaborative role of LMS

As depicted in Figure 3, SHS administrators highly value access to the school library based on instructional needs. An online calendar located at the library media website designed for faculty to reserve instructional time in the library media center as needed. Social studies teacher #2 commented:

> The SLMP offers professional learning communities (PLCs) on various technology offerings. Sometimes these are requested by teachers where as others

are offered to the faculty at large. The department has requested PLC's periodically and they are always ready to respond.

The earlier mandatory culture of the collaborative teaching between departments and the SLMP have redefined themselves as a consequence of shared effort by both SLMSs to engage the entire faculty and being available to provide curricular and technology when and where it is needed.

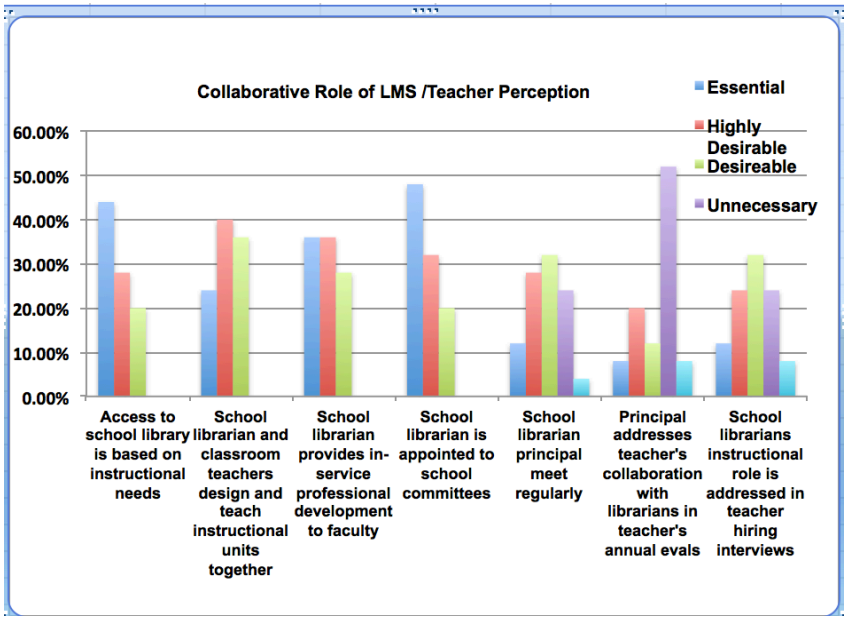

Figure 4. Collaborative Role of LMS Teacher Perception

As depicted in Figure 4, SHS teachers indicate four critical areas of SLMS collaboration; access to the school library based on their instructional needs, designing and co-teaching instructional units, in-service professional development for faculty and SLMS participation on school committees.

The concept of collaboration has shifted among teachers towards SLMSs to one of voluntary collaboration. A high percentage of teachers who responded to the survey viewed collaboration as highly desirable or desirable. Science teacher #1 stated:

> I bring all my classes down here to use the labs especially when we are beginning a new unit. M and J are great with teaching them how to use excel which is really important when you are looking at data and graphing your results in the IPS class for example…they will also push out into the general classroom as well if we are working on something that requires us to be in a science lab.

He further explained that:

> …they provide training on media, research techniques which are a critical aid for teachers so we can understand the new methodologies that are out there as well as introduce new technology… and their troubleshooting ability… they keep us up and running.

Surveyed teachers also agreed that the principal should address the teacher's collaboration with librarians in the teacher's annual evaluation and the role of the school librarian should be addressed in teacher hiring interviews.

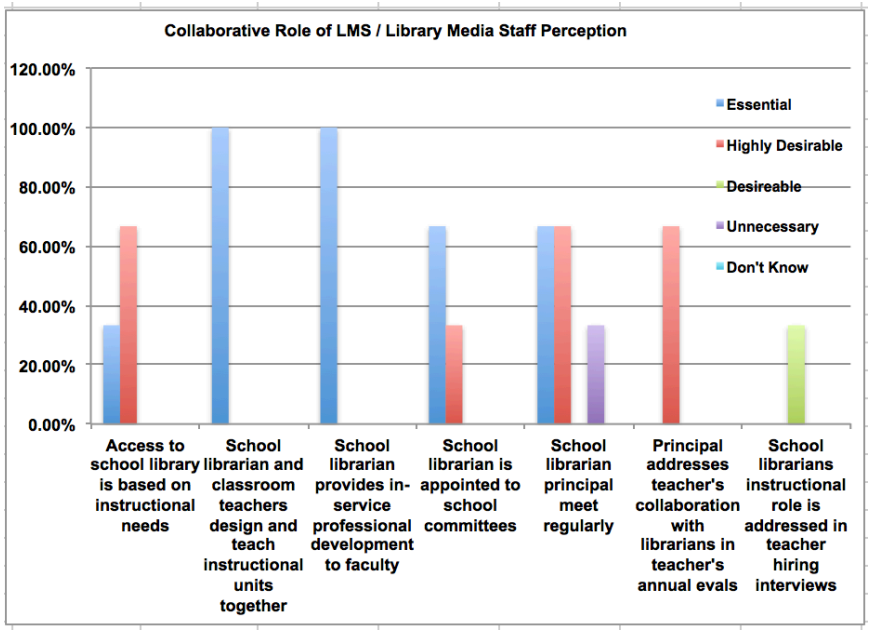

Figure 5. Collaborative Role of LMS Library Media Staff Perception

SLMS survey responses clearly demonstrated a commitment to providing library support and access to students while providing full teacher instructional support and providing professional development as noted in Figure 5 above. SLMS #1 clarified,

> We mainly work with the social studies department, English language arts, world language, health and wellness and science department; at this point science is looking for additional collaboration opportunities. We are here to support the informational and instructional needs of all the students and staff of SHS at every level. We put the students needs first.

These themes are further reflected in the SHS *Joe Townsley Library Media Center* brochure located at the library web site. This artifact clearly states the school library media specialists will collaborate with all teachers to:

> Plan, deliver and assess student achievement of the Connecticut standards and Common Core Standards, integrate the Connecticut and Common Core standards into and across content areas, teach students information skills needed to become efficient and effective researchers, encourage free voluntary reading by giving book talks, creating book displays and promoting the importance of reading, integrate iCONN and other subscription databases into the curriculum, use technology: i.e. digital projectors, digital cameras, web 2.0 resources, and presentation station, select a diverse collection of books, DVDs, and periodicals to add to the collection, integrate United Streaming Video clips into curriculum and create video and movies. (Simsbury High School, 2014)

In an interview with SLMS #2 when asked to describe her role she commented,

> I see my role as an instructor in digital literacy skills. I do professional development for teachers; we are seen more as technology integration specialists or tech teachers; we do so much with individual teachers. Sometimes the director sends teachers to us for tech support. Students view us as experienced teachers. Teachers often defer to us as the experts.

This was a significant theme that previously appeared in the Idaho school library impact study. Researchers discovered that when teachers experienced "…librarians as instructional colleagues and technology integrators, students are more likely to excel academically" (Lance, Rodney, & Schwartz, 2009, p. 6). Evidence of technology as an integral part of the school library began to appear especially in the area of student motivation and effective information literacy skills. Additional evidence of collaborative activities include a *Library Lessons* link to a list of academic departments that included English, health, math, science, social studies, technology education and family and consumer sciences, performing arts, and world language. These departments list ninety-one teachers with all departments participating in collaborative lessons. Within the list, fifty-one teachers from grades 9-12 show active collaborative library lessons at the time of this writing. The content of these lessons include assignments, assessments, rubrics, and recommended databases and websites for each lesson. Included in these are AASL 21st Century Learning Skills and Connecticut Common Core Standards.

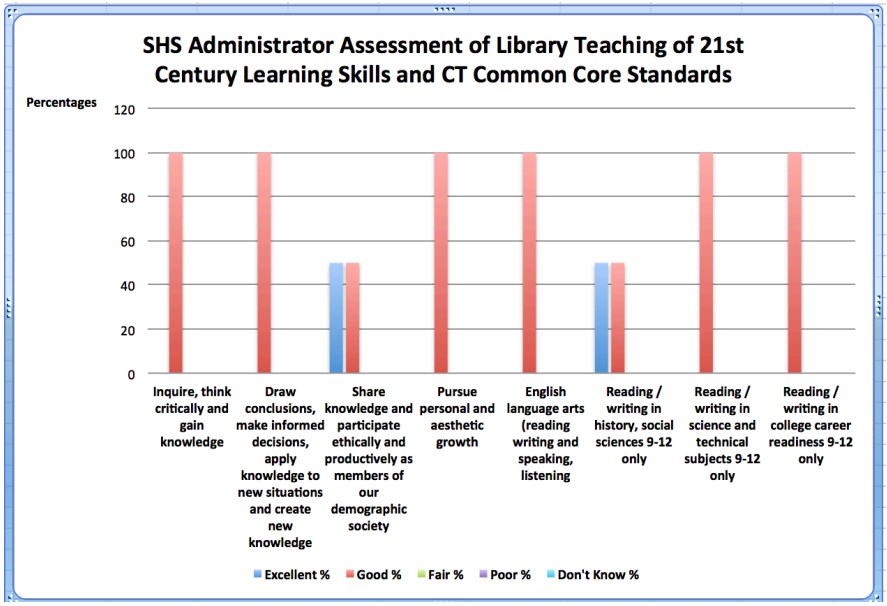

Figure 6. SHS Administrator Assessment of Library Teaching of 21st Century Learning Skills and Connecticut Common Core Standards

SHS administrators view the teaching of 21st Century Learning Skills and Connecticut Common Core standards as good or excellent as evidenced in Figure 6 above. The importance of infusing these skills across the curriculum aligns with the same theme that appeared during the Pennsylvania school study (i.e., Lance & Schwartz, 2012), "in particular, the evidence indicates that inquiry-based learning provides students with a strong foundation of learning skills that will serve them well throughout their lives" (p. 166). These skills were highly valued by all administrators who participated in the case study.

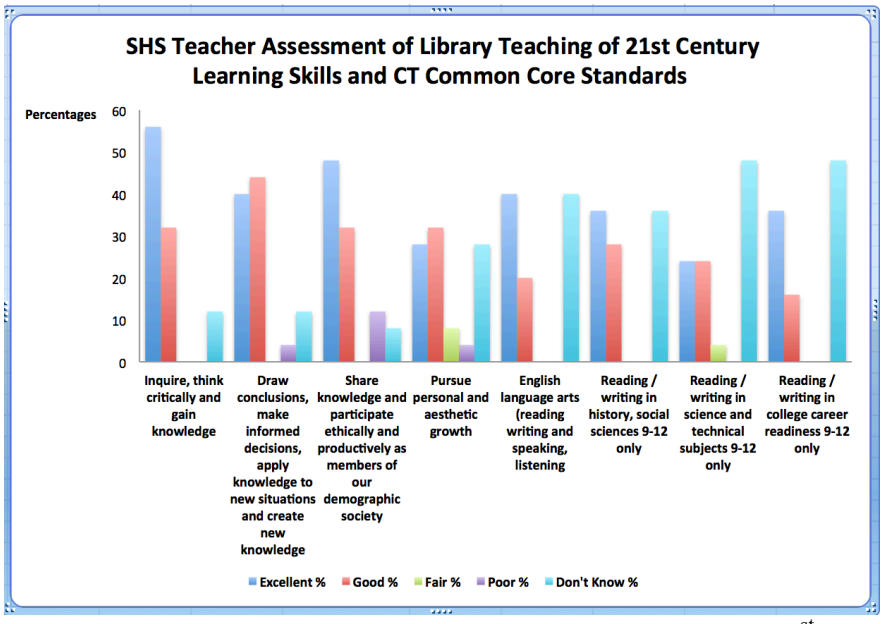

Figure 7. SHS Teacher Assessment of Library Teaching of 21st Century Learning Skills and Connecticut Common Core Standards

Note that the administrator views are comparable to the teacher perceptions noted above in Figure 7.

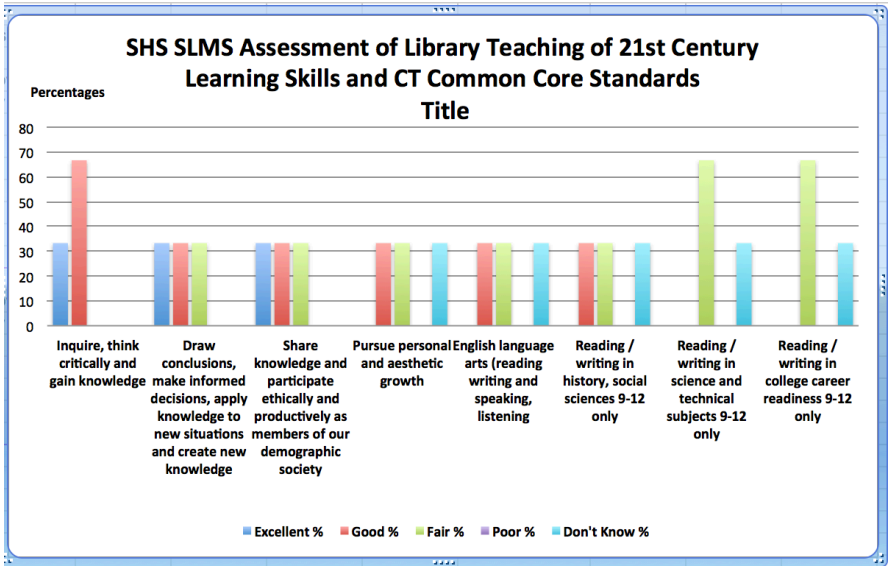

Figure 8. SHS SLMS Assessment of Library Teaching of 21st Century Learning Skills and Connecticut Common Core Standards

In a recent interview one SLMS stated:

> we support the world language department and the Common Core speaking and listening strand by offering technology resources such as *Voice Thread* to use in project based learning. We are working with ELA to support their close reading initiative in the district. I've been collaborating with the district on Information Literacy skills to improve student understanding of broad scope and task definition, note taking, outlining and resource evaluation skills and working on developing 'content blind' or universal literacy skills in the library. (SLMS #1)

According to SLMSs, the social studies department is the only department that has a scope and sequence of teacher created inquiry oriented assignments that provide an opportunity for students to gain a strong information literacy skills that are used over the course of freshman year to build those skills as the year rolls out and right through senior year.

How Has The SLMP Impacted The School Learning Culture?

Administrators, teachers and SLMSs were surveyed to assess selected library infrastructure components, on site interviews were conducted as well as an on site observation.

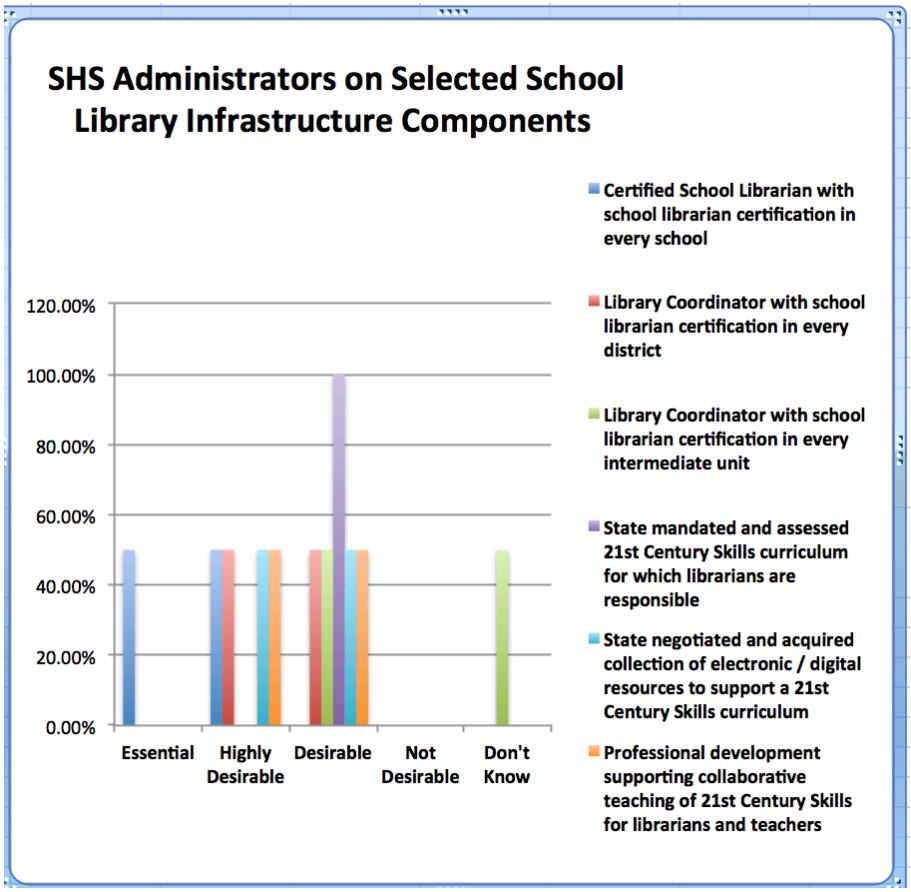

Figure 9. SHS Administrators on Selected School Library Infrastructure Components

SHS administrator respondents noted above in Figure 9 recognized the importance of having certified SLMS in the school library as well as a district coordinator in place to monitor the school library programs across the district. Furthermore they acknowledged the importance of ongoing professional development opportunities on a regular basis to maintain and develop new skills, a state mandated and assessed AASL 21st century skills curriculum for school librarians as well as the importance for state-negotiated and acquired collection of digital and electronic resources for students and staff to support the curriculum.

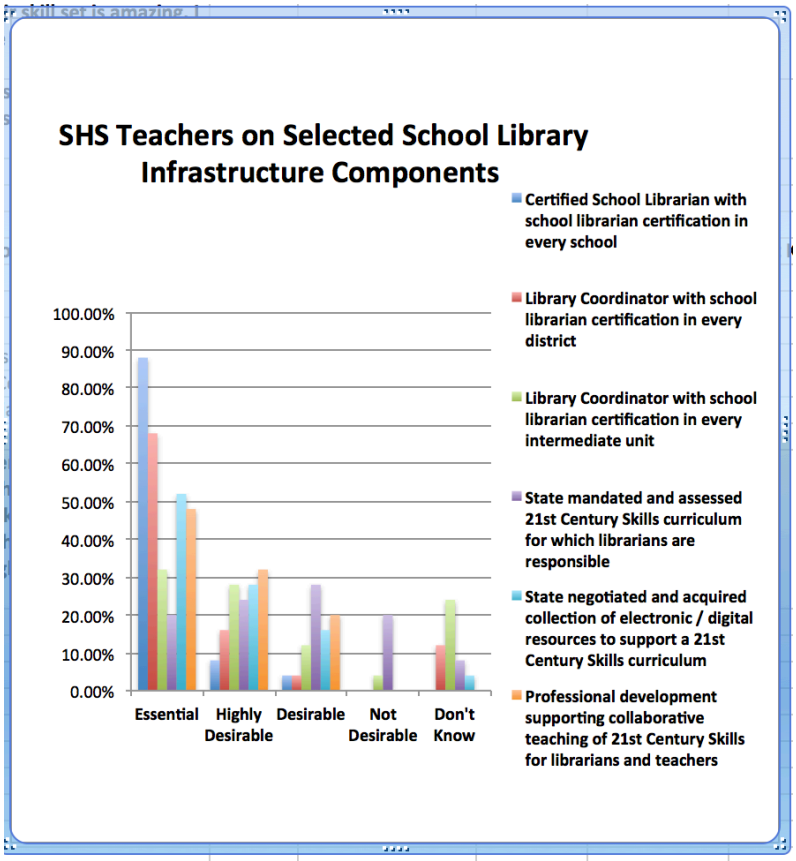

Figure 10. SHS Teachers on Selected School Library Infrastructure Components

As noted above in Figure 10, teachers generally support selected school library infrastructure components especially in the areas of having a certified school librarian in every school and district followed by having an adequate collection of electronic and digital resources to support and 21st century skills curriculum and professional development to support collaborative teaching of 21st century skills for both teachers and librarians. Interview data from a teacher in the Technology Education department cited the library at SHS offers much more in terms of being more open and inviting than a classroom. A SLMS commented:

> More importantly the library is viewed as a place where work gets done by students and we work hard to maintain that environment; it's great to have that, I know how easily that view can slide. If we receive pushback from students

> teachers are quick to back us and this has allowed us to maintain an academic environment in the library. (SLMS #2)

Social studies teacher #2 commented that, "the library media curriculum makes your curriculum more effective, the students learn more and are better equipped for the real world." While observing the LMC during the afternoon a teacher from the technology education department explained, "the library is woven into the culture of SHS as being the place you go to when you have work to complete; the vast majority of students use it on a regular basis; overall students view the school library as the research hub." Observation throughout the day supported an engaged student population in the school library working on a variety of academic pursuits.

The SHS library infrastructure aligns closely with other U.S. school libraries examined in the literature review. One recent longitudinal study conducted in Colorado over a six-year period showed that schools that maintained or engaged a certified school librarian demonstrated higher reading scores whereas schools that lost their SLMS or did not have a certified school librarian demonstrated lower student performance regardless of poverty levels (Lance & Hofschire, 2012). This was further evidenced in study of Philadelphia schools over the 2012-2013 school year that also showed a direct correlation between flexible scheduling and writing scores (Katchel & Lance, 2013). This finding among others suggested that the impact of a full-time SLMS creates a differential impact on student writing scores suggesting a more reliable indicator of the student's mastery of 21st century learner standards and Connecticut Common Core standards.

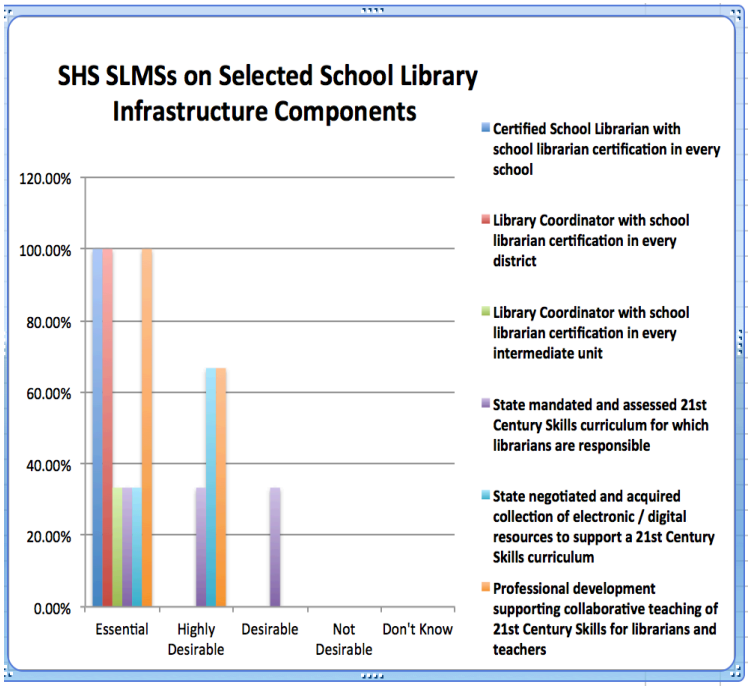

Figure 11. SHS SLMSs on Selected School Library infrastructure Components

SLMSs clearly recognized the importance of having a certified SLMS in every library as well as recognizing the importance of having a library coordinator at the district level as well as the intermediate level. Furthermore they understood the significance of having an adequate collection of electronic and digital resources in place to support a 21st century skills curriculum. One of the SLMSs commented that in two of her previous positions there were no district coordinators in place to support a library media program. In both of these school districts the school library programs were either cut or not adequately staffed and funded resulting in an ineffective program that was unable to support students and teaching staff. By contrast Simsbury School District has a district coordinator and an intermediate coordinator at the elementary level. This has resulted in regular meetings at the district and local levels to keep library media staff apprised of district needs. The district coordinator attends all departmental meetings and is able to advocate for the school library programs and ensure they continue to grow and serve the needs of the

teachers and students in the district. The importance of this infrastructure was further described in another interview with another SLMS.

> We are lucky to have the resources we have in place; in addition to me is the other SLMS, two paraprofessionals and four parent volunteers. The paraprofessionals enable us to stay open longer at the end of the day, provide critical inventory, cataloging and student management duties and parent volunteers help with other minor but necessary library duties. All this support allows J and I to teach in the labs and classrooms and be available for student and faculty support with research and digital support as well as the time to research current reliable tools to support our library. This has helped to create an atmosphere like a small college library; the students are engaged and respectful and really use it. They're lined up in the morning and are here after school. The library is centrally located and they have invested serious money in bringing it up to this level. It's a beautiful space and we have enough staff to make it work. (SLMS #1)

The combination of location, design, resources and district infrastructure have provided the students and staff of SHS with an exemplary school library.

The results of the case study have shown that the original vision for the school library program have shifted with the times in an appropriate way since 2005. The influence of technology has impacted the SHS library program on every level. What originally began as a library renovation project and the infusion of a 21st century information skills into the SHS curriculum has shifted from being a district mandate and become an elective program. The 2015 case study has revealed how the SHS SLMP has evolved to meet the changing needs of its students and teaching staff. Access to

information and the need to process it effectively has grown exponentially. Once perceived by some of the staff as more curriculum centered, the current program has evolved to meet the changing needs in education, information, digital tools, resources, communication and instructional technology while evaluating new resources and supporting student and teacher information needs. Twenty-first century learner skills are evident in the content of the collaborative units of the library lessons. Flexible scheduling allows teachers to access the library when and where they need support resulting in more voluntary collaboration that is driven by faculty need that has been willingly supported by the LMC. Technology has allowed the walls of the LMC to become invisible while the extensive resources of the physical library and its support staff has created an academic culture that is clearly student centered. The continued leadership by district and intermediate library coordinators has kept the library programs relevant and viable providing adequate human, physical and digital resources to address the changing needs for students and teachers to meet their high academic requirements and standards.

Summary

SHS has historically demonstrated a commitment to providing an exemplary SLMP. This investment in student learning has returned outstanding results on an ongoing annual basis. The infrastructure of the SLMP has been thoughtfully designed to accommodate the information needs of the students, faculty and community at large. This commitment has allowed the program to remain relevant and well staffed in order to succeed in its mission. In turn this has created a learning culture at SHS that is dedicated to student and professional growth and fosters a climate of shared learning opportunities across the curriculum.

Chapter 5 – Conclusions and Implications

Introduction

The administrators, teachers, and school library media specialists (SLMS) from Simsbury High School (SHS) who participated in this study demonstrated a significant consensus in the importance of the SHS library media program (SLMP) especially in the area of information technology. Administrators acknowledged the necessity of the SLMP while identifying specific areas that enhanced SHS despite being unfamiliar with the actual scope of the SLMP. Teachers who responded to the survey identified specific elements of the SLMP they perceived as relevant and critical, while teachers who were interviewed shared how the SLMP contributed to their overall practice and student outcomes. SLMSs from SHS clearly identified the current scope and vision of the current SLMP and the importance of their roles.

The administrators who were surveyed and interviewed during this study clearly acknowledged that SHS's existing school library infrastructure provided a central location with flexible access to current technology and resources both human and physical to support the infusion of technology and 21st century information literacy skills into the academic fabric of faculty and students at SHS. The data showed not all administrators understood the significance and importance of certified staff and the need for district representation to ensure the program remains viable. The data showed a perceived knowledge that SLMSs played critical support roles across the school for all stakeholders in coteaching, curriculum design, instructional resources, technology and support, as well as providers of professional development for faculty that closely aligned with SLMS role perceptions.

The teacher respondents identified specific areas where the SLMP has impacted their practice most notably in the area of technology support, collaboration, strengthening curriculum, instruction and student outcomes. Teachers recognized the SLMS role of teaching 21st Century Learner standards and Connecticut Common Core standards in reading, writing, listening, speaking and listening across the curriculum. Interviews with various subject area teachers acknowledged that library collaboration had declined considerably once the "assured experiences" became voluntary (Snyder & Roche, 2008). Despite the respondent's range of subject areas, the data sample represented only 26% of the current SHS faculty perhaps reflected the current SHS voluntary policy of collaboration with the SLMP.

The SLMS respondents acknowledged the importance of their role as co-teacher, collaborators in curriculum design, participation on school committees, professional development providers and instructional and technology resources and support managers across the SHS population. Interview data revealed the SLMS perceptions on the importance of district library coordinators. Library coordinators attended departmental meetings across the district to ensure all school library programs were aligned with the needs of the district thereby ensuring the protection and development of current SLMP for SHS and other Simsbury district schools. Regularly scheduled district library meetings kept SLMSs abreast of new developments. The data also showed a perceived knowledge of the prior SHS expectation of "assured experiences" in the library (Snyder & Roche, 2008). Interview data revealed an interest in redefining the role of the SLMP across the curriculum to address the current needs of SHS. The SLMSs noted their

proactive approach was designed to attract and encourage more collaborative participation from other faculty members.

Implications for Practice

The increased use of technology at SHS had changed the way instruction was delivered and information was located. Student success was more reliant on strong information literacy skills than ever before. Therefore, the SLMS should strongly consider playing a more active role curriculum writing and planning especially at the freshman and sophomore level to ensure their 'content blind' skills are embedded and taught across the curriculum. This practice might reduce the re-teaching of these skills as students move up the grades and create a school wide expectation of the utilization of 21st century learner skills, thereby strengthening student information literacy skill levels in all subject areas. SHS teachers were pressed for time as they delivered grade level content leaving them with less time to locate and develop resources for their respective content areas.

The current SLMSs had recognized the constraints on the teachers and had begun to address their technology, research and instructional needs. Some of the interviewees noted that colleagues were not fully utilizing what the SHS library had to offer. It was very important that the SLMS established a strong and positive relationship with the new principal and administration. This relationship is critical to enable an effective collaborative environment to flourish within the school environment. Meeting with the building principal should occur on a regular basis to stay abreast of new developments in the curriculum and the school at large so they can provide current resources and support.

Suggestions for Further Research

Research should be conducted to measure the student academic outcomes of the current voluntary collaborative ventures of specific subject area teachers and the SHS SLMP as compared to student outcomes for teachers who have not collaborated with the SHS SLMP. It would also be beneficial for future SHS SLMP collaboration to understand what barriers have prevented individual SHS teachers from collaborating with the SHS SLMP. These explorations could provide insight into perceived barriers and beliefs by current SHS faculty and change the delivery of information and technology services from the SHS SLMP.

In closing as the data for this case study was examined, a future replication of this study might be in order to determine whether the voluntary nature in the collaborative partnership between the SLMSs and the faculty of the SHS has continued to provide an academic advantage to SHS students and faculty. The academic impact of the voluntary partnership could be measured by conducting a longitudinal study of SHS graduates as they continue onto college and universities to see how effective they are during their freshman year.

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Appendix A

Simsbury High School Case Study: Library Media Specialist / Library Aide Survey - School Library Media Program

Any perceptions or opinions you express in this survey will remain completely confidential. All survey results will be combined and analyzed statistically, but no response or survey will be associated with any respondent in any published results.

Questions About You*
Required

1. What is your current job title? Please select the closest match.

School Library Media Specialist

Library Aide

Other:

2. What is your highest completed degree? Mark one. *
Required

Bachelor's

Master's

Doctorate

Associate Degree

Certificate

Course Work

3. In what year was your highest degree granted? Enter a four- digit year.

4. In what year were you first employed as a K-12 educator? Enter a four- digit year.

5. In what year were you first employed at Simsbury High School? Enter a four- digit year.

Questions About Your Perceptions*

Required

6. How often do you participate in each of the following types of professional development or continuing education activities? Mark one for rows a. through e. "Other" is optional.

	At least once a year	At least every two years	Less
a. Formal college / university courses			
b. District in-service events			
c. Conferences			
d. Workshops			
e. Online workshops, webinars, etc.			
f. Other - mark one of the following			

7. Regardless of actual practice, how important do you believe it is for each of the following to happen in your school or district? Mark one per row.

	Essential	Highly desirable	Desirable
a. Access to school library is scheduled on the basis of instructional needs rather than on a regular or required fixed schedule			
b. School librarian and classroom teachers design and teach instructional units together			
c. School librarian provides in-service professional development to faculty			
d. School librarian is appointed to school committees (e.g., technology,			

curriculum, standards, and other advisory groups)

e. School librarian and principal meet regularly

f. Principal addresses teacher's collaboration with librarians in teacher's annual evaluations

g. School librarian's instructional role is addressed in teacher hiring interviews

8. Which of the following terms most closely describes your perception of the desired role(s) of the school librarians in your school or district? Mark all that apply.

a. Administrator

b. Co-teacher (with classroom teacher)

c. Curriculum designer

d. In-service professional development provider

e. Instructional resources manager

f. Instructional support manager

g. Reading motivator

h. School leader

i. Teacher

j. Tutor of at-risk students

k. Technology instructor

l. Technology trouble-shooter

m. Website manager

9. How would you rate the teaching of 21st Century Learner standards by your school library media program(s)? Mark one per row. *

Required

	Excellent	Good	Fair
a. Inquire, think critically, and gain knowledge.			
b. Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.			

c. Share knowledge and participate ethically and productively as members of our demographic society.	
d. Pursue personal and aesthetic growth.	

10. How would you rate the teaching of the Connecticut Common Core standards by your school library program(s)? Mark one per row.

	Excellent	Good	Fair
a. English language arts (reading, writing, speaking, listening)			
b. Reading / writing in history, social sciences (grades 9-12 only)			
c. Reading / writing in science and technical subjects			

(grades 9-12 only)	
d. Reading / writing in college and career readiness	

11. For each of the following infrastructure elements, indicate the level of desirability based on your beliefs about its potential positive impact on student learning and academic achievement. Assume that funding and staffing required to implement each element are available. Mark one per row. *

Required

	Essential	Highly desirable	Desirable
a. Certified librarian (with school librarian certification) in every school			
b. Library coordinator (with school librarian certification) in every district			
c. Library coordinator (with school librarian			

certification) in every intermediate unit
d. School Library Advisor (with school librarian certification) at Commonwealth Libraries, the State Library Agency in the Department of Education
e. State-mandated and assessed 21st Century Skills curriculum for which librarians are responsible
f. State-negotiated and acquired collection of electronic/digital resources to support a 21st Century Skills curriculum 9e.g.,

databases, e-books)
g. Pre-service, induction, and continuing education about librarian's role in teaching of 21st Century Skills for prospective librarians
h. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective teachers
i. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective administrators

j. Professional development supporting collaborative teaching of 21st Century Skills for librarians and teachers

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Almost Done

12. OPTION: Feedback about successes of the Simsbury High School Library program is encouraged. There is adequate room to write here. Share a story about the program and it might be published in the final report. If you do opt to offer a story, please provide your name and email address in question 13.

13. If you did offer a story, please enter your name and email address.

1. First and last name: 2. E-mail address

14. Would you be willing to participate in a brief interview?

If yes, please complete section 15

Yes

No

15.Please select your preferred interview format from the list below

In person on site

In person off site

Telephone

Other

16. Please provide contact information for interview. Include first and last name, preferred phone number and or email and best time to contact you.

Thank you for your valuable input! When you are finished, please click Send Form to submit your survey!

Appendix B

Simsbury High School Case Study: Teachers Survey - School Library Media Program

Any perceptions or opinions you express in this survey will remain completely confidential. All survey results will be combined and analyzed statistically, but no response or survey will be associated with any respondent in any published results.

Questions About You*

Required

1. What is your current job title? Please select the closest match.

    Department Chair

    Teacher

    Other:

2. What is your highest completed degree? Mark one. *

Required

    Bachelor's

    Master's

    Doctorate

3. In what year was your highest degree granted? Enter a four-digit year.

4. In what year were you first employed as a K-12 educator? Enter a four-digit year.

5. In what year were you first employed at Simsbury High School? Enter a four-digit year.

Questions About Your Perceptions*

Required

6. How often do you participate in each of the following types of professional development or continuing education activities? Mark one for rows a. through e. "Other" is optional.

	At least once a year	At least every two years	Less
a. Formal college / university courses			
b. District in-service events			
c. Conferences			
d. Workshops			
e. Online workshops, webinars, etc.			
f. Other - mark one of the following			

7. Regardless of actual practice, how important do you believe it is for each of the

following to happen in your school or district? Mark one per row.

	Essential	Highly desirable	Desirable

a. Access to school library is scheduled on the basis of instructional needs rather than on a regular or required fixed schedule
b. School librarian and classroom teachers design and teach instructional units together
c. School librarian provides in-service professional development to faculty
d. School librarian is appointed to school committees (e.g., technology,

curriculum, standards, and other advisory groups)

e. School librarian and principal meet regularly

f. Principal addresses teacher's collaboration with librarians in teacher's annual evaluations

g. School librarian's instructional role is addressed in teacher hiring interviews

8. Which of the following terms most closely describes your perception of the desired role(s) of the school librarians in your school or district? Mark all that apply.

a. Administrator

b. Co-teacher (with classroom teacher)

c. Curriculum designer

d. In-service professional development provider

e. Instructional resources manager

f. Instructional support manager

g. Reading motivator

h. School leader

i. Teacher

j. Tutor of at-risk students

k. Technology instructor

l. Technology trouble-shooter

m. Website manager

9. How would you rate the teaching of 21st Century Learner standards by your school library media program(s)? Mark one per row.*

Required

	Excellent	Good	Fair

a. Inquire, think critically, and gain knowledge.			
b. Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.			
c. Share knowledge and participate ethically and productively as members of our demographic society.			
d. Pursue personal and aesthetic growth.			

10. How would you rate the teaching of the Connecticut Common Core standards by your school library program(s)? Mark one per row.

	Excellent	Good	Fair

a. English language arts (reading, writing, speaking, listening)
b. Reading / writing in history, social sciences (grades 9-12 only)
c. Reading / writing in science and technical subjects (grades 9-12 only)
d. Reading / writing in college and career readiness

11. For each of the following infrastructure elements, indicate the level of desirability based on your beliefs about its potential positive impact on student learning and academic achievement. Assume that funding and staffing required to implement each element are available. Mark one per row. *

Required

	Essential	Highly desirable	Desirable

a. Certified librarian (with school librarian certification) in every school
b. Library coordinator (with school librarian certification) in every district
c. Library coordinator (with school librarian certification) in every intermediate unit
d. School Library Advisor (with school librarian certification) at Commonwealth Libraries, the State Library Agency in the Department of Education

e. State-mandated and assessed 21st Century Skills curriculum for which librarians are responsible
f. State-negotiated and acquired collection of electronic/digital resources to support a 21st Century Skills curriculum 9e.g., databases, e-books)
g. Pre-service, induction, and continuing education about librarian's role in teaching of 21st Century Skills for prospective librarians

h. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective teachers
i. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective administrators
j. Professional development supporting collaborative teaching of 21st Century Skills for librarians and

teachers

Almost Done

12. OPTION: Feedback about successes of the Simsbury High School Library program is encouraged. There is adequate room to write here. Share a story about the program and it might be published in the final report. If you do opt to offer a story, please provide your name and email address in question 13.

13. If you did offer a story, please enter your name and email address.

1. First and last name: 2. E-mail address

14. Would you be willing to participate in a brief interview?

If yes, please complete section 15

Yes

No

15. Please select your preferred interview format from the list below

In person on site

In person off site

Telephone

Other

16. Please provide contact information for interview. Include first and last name, preferred phone number and or email and best time to contact you.

Thank you for your valuable input! When you are finished, please click Send Form to

submit your survey!

Appendix C

Simsbury High School Case Study: Administrators Survey - School Library Media Program

Any perceptions or opinions you express in this survey will remain completely confidential. All survey results will be combined and analyzed statistically, but no response or survey will be associated with any respondent in any published results.

Questions About You*

Required

1. What is your current job title? Please select the closest match.

    Principal

    Assistant Principal

    Other:

2. What is your highest completed degree? Mark one. *

Required

    Bachelor's

    Master's

    Doctorate

3. In what year was your highest degree granted? Enter a four-digit year.

4. In what year were you first employed as a K-12 educator? Enter a four-digit year.

5. In what year were you first employed as a school principal or educational administrator? Enter a four-digit year.

Questions About Your Perceptions*

Required

6. How often do you participate in each of the following types of professional development or continuing education activities? Mark one for rows a. through e. "Other" is optional.

	At least once a year	At least every two years	Less
a. Formal college / university courses			
b. District in-service events			
c. Conferences			

d. Workshops

e. Online workshops, webinars, etc.

f. Other - mark one of the following

7. Regardless of actual practice, how important do you believe it is for each of the following to happen in your school or district? Mark one per row.

	Essential	Highly desirable	Desirable

a. Access to school library is scheduled on the basis of instructional needs rather than on a regular or required fixed schedule
b. School librarian and classroom teachers design and teach instructional units together
c. School librarian provides in-service professional development to faculty
d. School librarian is appointed to school committees (e.g., technology,

curriculum, standards, and other advisory groups)

e. School librarian and principal meet regularly

f. Principal addresses teacher's collaboration with librarians in teacher's annual evaluations

g. School librarian's instructional role is addressed in teacher hiring interviews

8. Which of the following terms most closely describes your perception of the desired role(s) of the school librarians in your school or district? Mark all that apply.

a. Administrator

b. Co-teacher (with classroom teacher)

c. Curriculum designer

d. In-service professional development provider

e. Instructional resources manager

f. Instructional support manager

g. Reading motivator

h. School leader

i. Teacher

j. Tutor of at-risk students

k. Technology instructor

l. Technology trouble-shooter

m. Website manager

9. How would you rate the teaching of 21st Century Learner standards by your school library media program(s)? Mark one per row.*

Required

	Excellent	Good	Fair

a. Inquire, think critically, and gain knowledge.
b. Draw conclusions, make informed decisions, apply knowledge to new situations, and create new knowledge.
c. Share knowledge and participate ethically and productively as members of our demographic society.
d. Pursue personal and aesthetic growth.

10. How would you rate the teaching of the Connecticut Common Core standards by your school library program(s)? Mark one per row.

	Excellent	Good	Fair

a. English language arts (reading, writing, speaking, listening)
b. Reading / writing in history, social sciences (grades 9-12 only)
c. Reading / writing in science and technical subjects (grades 9-12 only)
d. Reading / writing in college and career readiness

11. For each of the following infrastructure elements, indicate the level of desirability based on your beliefs about its potential positive impact on student learning and academic achievement. Assume that funding and staffing required to implement each element are available. Mark one per row. *

Required

	Essential	Highly desirable	Desirable

a. Certified librarian (with school librarian certification) in every school
b. Library coordinator (with school librarian certification) in every district
c. Library coordinator (with school librarian certification) in every intermediate unit
d. School Library Advisor (with school librarian certification) at Commonwealth Libraries, the State Library Agency in the Department of Education

e. State-mandated and assessed 21st Century Skills curriculum for which librarians are responsible
f. State-negotiated and acquired collection of electronic/digital resources to support a 21st Century Skills curriculum 9e.g., databases, e-books)
g. Pre-service, induction, and continuing education about librarian's role in teaching of 21st Century Skills for prospective librarians

h. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective teachers
i. Pre-service, induction, and continuing education about librarian's role in teaching 21st Century Skills for prospective administrators
j. Professional development supporting collaborative teaching of 21st Century Skills for librarians and

teachers

Almost Done

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13. If you did offer a story, please enter your name and email address.

1. First and last name: 2. Email address

14. Would you be willing to participate in a brief interview?

If yes, please complete section 15

Yes

No

15.Please select your preferred interview format from the list below

In person on site

In person off site

Telephone

Other

16. Please provide contact information for interview. Include first and last name, preferred phone number and or email and best time to contact you.

Thank you for your valuable input! When you are finished, please click Send Form to

submit your survey!