Methods for Supporting 21st Century Learning in School Library Spaces

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Abstract
The purpose of this qualitative study is to explore ways in which the school library space can function to serve the needs of learners in the 21st century. Additionally, this study explores teacher librarians’ perceptions of school library spaces in terms of the features that best support 21st century learning. Findings from interviews were used to determine which features of school library spaces aim to meet the social, emotional, and academic needs of all learners. Three teacher librarians from public school systems participated in the study. Participants completed an initial interest survey in which they indicated number of years of service in their current positions and the changes they have made to the school library space to better meet the needs of students.

The researcher found that the largest factors contributing to student use of school library space include a welcoming environment, comfortable seating, and availability of choice activities including board games and makerspace materials. Participants indicated a need for mobile furniture, natural lighting, sound barriers, and an overall increase in physical space. Additionally, findings indicated that school library stakeholders may not understand the rationale behind the shift from “traditional” library settings to library spaces that reflect elements of a learning commons.
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ABSTRACT

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CHAPTER 1
INTRODUCTION

“The library is a growing organism.” This quote, one of the Five Principles of Librarianship as established by Dr. Shiyali Ramamrita Ranganathan in 1931, sums up one of the greatest triumphs and challenges of library management: finding the space for the ever-growing organism to evolve. Since the beginning of librarianship, the library’s main objective has been to provide access to information and space. In more recent decades libraries have seen exponential increases in technology-based resources which has led to a shift in expectations for library spaces and the resources housed within. For example, in many libraries, shelves of multi-volume reference books have been removed to accommodate computers with similar web-based references, allowing several users to access the same resource at one time (Grigsby, 2015). Although library resources and services have changed considerably since Ranganathan’s time, he understood that the vision of what a library is or should be is not static. As tangible resources evolve, the heart of the library mission remains the same: to provide open access to information and space. It is this open access that makes libraries so important to schools.

Justification

As school libraries move forward to support the needs of the 21st century learner, the ways in which school library spaces are being utilized are shifting. School libraries must be equipped to store and display a variety of print and technology-based resources, while maintaining an environment that is welcoming and maximizes access for students (Palin, 2014). In addition, school libraries support reading and learning by providing quiet spaces for individual study. Junior high school librarian Lindsay Cesari (2014)
argues that teens should be of particular interest in relation to how school library spaces are used because adolescents have unique needs related to learning. Cesari also notes that whereas all libraries aim to provide an open, accessible space, school library spaces serving teens must feel especially welcoming to ensure that they will be used. However, Cesari points out the meaning of “welcoming” is not the same for all teens. To some students, “welcoming” denotes a quiet atmosphere in which to study and seek respite from the chaos of noisy classrooms. For others, this welcome feeling will come by way of an atmosphere where social interaction is both modeled and encouraged.

While teacher librarians aim to make changes to library resources and spaces to best meet the needs of students, it is difficult to know which of these views of welcoming better defines a 21st century school library that is most appropriate for adolescent learning. Teacher librarians who aim to modernize school library spaces are in need of a clearer understanding of the expectations of stakeholders such as administrators, teachers, and students when making decisions about how to maintain a balance of quiet study space while also promoting collaboration and social interaction.

The question about what happens to the physical spaces of school libraries in the 21st century learning milieu is largely unanswered in terms of a universally-shared view of how library spaces are defined. Teacher librarians’ perspectives should shape decisions concerning available resources, services and space. However, students’, teachers’, and administrators’ views impact library decisions as well. In fact, it is likely that these stakeholders have varied expectations for each of these aspects of library planning and management (Everhart, 2013).
School Libraries as Collaborative and Social Space

Whether school libraries are quiet or social, they are perceived as the hub for learning in schools. Nowhere else in a school can students gather together to read, collaborate, use technology, socialize, and explore individual interests. Due to rapid changes in technology and education, Koechlin, Zwan and Loertscher’s (2008) “learning commons” concept has taken precedence in recent conversations about 21st century school libraries. The learning concept model revolves around the social context of learning with a focus on student collaboration and technology. The library as a center for social interaction is a relatively new concept. However, the learning commons model encourages social interaction, thus leading to a shift in the perception of how library spaces are used.

The American Association of School Librarians’ (AASL, 2007) Standards for the 21st Century Learner provides a framework for 21st century learning in schools that promotes critical thinking, decision-making, sharing knowledge and pursuing personal interests. Thus this national association points to the need for the collaborative and social environment, but also recognizes the need for space to pursue personal interests. School library spaces should be designed to support learning in all of these areas.

School Libraries as Quiet Study Space

In addition to supporting student learning in 21st century skills, libraries should maintain a quiet atmosphere that promotes reading and individual study (Palin, 2014). In a study of secondary school libraries and student perceptions of library use, Agostò et al. (2015) determined that school libraries should provide separate spaces for quiet study in addition to spaces that promote social interaction.
Vivian Howard (2011), Academic Director for the School of Information Management at Dalhousie University in Halifax, Nova Scotia, organized focus groups of teenagers between 12 and 15 years of age to determine their needs for public library spaces. Several participants clearly stated that the library should offer areas designated specifically for reading. With the shift in mindset from libraries as silent environments for reading and studying to libraries as social hubs for learning and collaboration, it is important to adolescent learners that quiet spaces be preserved in the process (Agosto, et al., 2015; Cesari, 2014).

According to middle school librarian Ray Palin (2014), the interest surrounding the preservation of quiet library spaces has increased over the last decade--a shift attributed to increasing interest in the learning commons model. Palin argues that focusing exclusively on a learning commons model for school libraries puts society in danger of losing “a complete and productive library culture” (p. 18). This culture is equal parts quiet study space and equal parts learning commons. The challenge is keeping these environments separate, especially when space is at a premium.

**Student Expectations for School Library Resources and Space Utilization**

Although students could arguably be the stakeholder group with the most interest in school library spaces, little data exists to suggest existing trends in student perceptions or expectations within the adolescent population (Agosto, et al., 2015). In a recent study of teen perceptions of school libraries, researchers found that teenagers’ reasons for library use were largely motivated by academic need, the desire for social interaction, and the pursuit of leisure activities. Based on teen participants’ answers, the study determined that library spaces for teens should provide access to separate spaces for studying and
socialization. Because this was a small sample population, further research is needed to determine whether these findings are consistent.

**Teacher Expectations for School Library Resources and Spaces**

While students are arguably the most frequent users of library spaces and resources, school libraries should also be equipped to satisfy the needs and expectations of a school’s teachers. The Common Core State Standards (CCSS) Anchor Standards for English language arts focus on reading, writing for varying purposes, collaboration, and the presentation of knowledge (Common Core State Standards Initiative [CCSSI], 2015). Using the CCSS Anchor Standards as a guide for predicting teachers’ expectations, teachers likely expect spaces that are clearly designated for both quiet studying and collaboration. In addition, teachers would likely expect the space to comfortably accommodate entire classes for instruction.

**Administrator Expectations for School Library Resources and Space Utilization**

Conversely, school administrators are likely the least frequent users of library space and resources. However, they are the stakeholder group that holds the most power in school library decision-making. School administrators likely have different expectations for school libraries than school librarians, teachers, and students (Foote, 2015; Hartzell, 2012). Professor of Educational Administration Gary Hartzell (2012) attests to administrators’ lack of expectations for the school library program to Educational Administration professors whose backgrounds span decades during which school library issues were viewed much differently. At present, school administrators’ coursework includes little to no description or study of expectations for the teacher librarian or school library program (Church, 2009; Hartzell, 2012). Furthermore,
Currently available literature relates primarily to administrators’ perceptions of the roles of teacher librarian rather than the allocation of library space. Research trends have shown that administrators’ expectations for school library programs are centered around student achievement, inquiry, and collaboration (Church, 2009; Ray, 2015).

**Summary of Problem Statement**

Although the school library should fulfill the needs of all students, teachers and administrators, these stakeholders have different expectations for access to resources and utilization of space in a school library. Teacher librarians who aim to modernize school library spaces are in need of a clearer understanding of how to fulfill students’ needs while maintaining a balance between a social, collaborative atmosphere and individual study space.

**Purpose**

The purpose of this qualitative research is to explore ways in which the school library space can function to serve the needs of learners in the 21st century.

**Research Questions**

1. In what ways do school librarians create an inviting space (or spaces) that satisfy academic, personal, social and emotional needs of students?

2. In what ways do school librarians find a balance in managing expectations that the library space functions either as a learning commons or a quiet place to read and study?

**Assumptions and Limitations**

One assumption of this research is that library stakeholders have varying expectations for the allocation of library space. Another assumption is that teacher
librarians have the power to determine how library spaces are planned and used. Research will be limited to school libraries where spaces have been modified to support 21st century learning.
CHAPTER 2

LITERATURE REVIEW

The purpose of this research is to explore ways in which the school library space functions to serve the needs of learners in the 21st century. Existing research related to this topic fell into the following categories: library support for 21st century learning, perceptions of school libraries as quiet study spaces, and school library stakeholder expectations.

Library Support for 21st Century Learning

Miller and Bartlett (2012) studied digital literacy in young people. Due to the increase in availability of “unmediated” web-based information, they saw a need to assess ways in which students evaluate Internet resources (p. 51). For the purpose of their study, Miller and Bartlett defined digital literacy as “the ability to critically assess and understand different sources of online information” (p. 45). They surveyed 509 primary and secondary school teachers in England and Wales to gauge teachers’ perceptions of students’ digital literacy skills. An overwhelming 99% of participants said digital literacy should be taught in schools and 59% reported student use of inaccurate information found online. Students’ abilities to evaluate information quality, recognize bias or propaganda, and apply source verification strategies were rated “poor” overall (Miller & Bartlett, 2012). Miller and Bartlett determined that digital literacy is a “core competency;” students must be taught to think critically about how information is created, distributed, and received. This study shows that digital information literacy is a growing issue for students and points to a need for library instruction in this area.
While Miller and Bartlett (2012) focused on classroom teachers’ perceptions of students’ digital literacy skills, Warren (2010) examined school librarian’s perceptions of their roles in teaching 21st century literacy skills. The purpose of Warren’s research was to determine which skills school library media specialists (SLMS) believed were essential for success in a 21st century society. Warren determined that rapid changes in technology contribute to a gap in teaching and learning and significantly impact literacy education. Warren set out to determine SLMSs’ definition of 21st century literacy and the essential skills needed to fit the definition.

Warren distributed two rounds of questionnaires to a sample size of 20 school library professionals, eight from elementary schools and twelve from secondary schools. Although the population for the study was limited and offered little insight beyond content established by the AASL standards, Warren found that SLMSs’ top categories exemplifying 21st century literacy were (a) finding and analyzing information, (b) using information ethically, (c) collaborating with others and sharing information, and (d) using technology. In order for students to be fully immersed in 21st century learning experiences, school library programs must offer the spaces and resources to support learning in these areas.

Whereas Warren (2010) sought school librarians’ perceptions of 21st century literacy skills, Kyungwon and Abbas (2015) studied school librarians’ professional competencies associated with successful learning labs and makerspaces. Presently no evidence-based curriculum exists to support the design or implementation of a learning lab or makerspace that supports students learning (Kyungwon & Abbas, 2015). The researchers conducted in-depth interviews with nine professionals, all with experience
with learning labs/makerspaces. Participants' backgrounds varied, some with experience in library and information science and others in the fields of museum studies, art history, teaching, film/television, and geology. Researchers used content analysis to evaluate transcripts of the interviews along with a web-based data analysis program. Kyungwon and Abbas determined that the top competencies professionals need to support a learning lab/makerspace include (a) ability to learn, (b) ability to adapt to changing situations, (c) ability to collaborate, (d) ability to advocate for the learning lab/makerspace, and (e) ability to serve diverse populations (p. 119). Because of their professional preparation in skills that connect to these competencies, teacher librarians are well-positioned to oversee the implementation of makerspaces in their schools.

The studies summarized for this subtheme indicate that digital literacy should be taught in schools (Miller & Bartlett, 2012), and that teacher librarians have the professional competencies necessary to pilot 21st century learning initiatives (Kyungwon & Abbas, 2015; Warren, 2010). These studies of digital literacy and 21st century skills inform the current study by demonstrating a need for addressing these areas of learning in school library settings.

**Perceptions of School Libraries as Quiet Study Spaces**

Dockrell and Shield (2006) conducted a study to determine ways in which noise levels impact learning outcomes with regard to nonverbal, verbal, and arithmetic-based tasks. Participants consisted of 153 six Year Three classes in London. Students first completed a survey regarding their current perceptions of classroom noise levels. The researchers simulated three learning environments, each with a different level of noise. Within these environments, students completed each type of task during a predetermined
amount of time. The researchers found a decrease in students’ performance in nonverbal (reading, information processing), at the mid-level and highest noise levels (Dockrell & Shield, 2006). At the lowest noise level, (compared to a silent classroom) students’ performance was significantly better. Dockrell and Shield concluded that special consideration should be given to classroom noise levels and the impact on student achievement. This study reveals that 21st century libraries should give special consideration to the preservation of quiet study spaces. Those with the mindset that school libraries should trade the quiet environment for a noisy and collaborative atmosphere can not ignore that students still very much need a quiet space. The problem is finding a balance for both within the school library space.

While the previous study focused on data collection relating to environments with simulated noise levels, May and Swabey (2015) gathered empirical data from academic libraries. The purpose of their study was to explore the relationship between noise levels and use of library spaces with regard to students’ perspectives. Data were collected from five academic libraries during peak traffic times using observation methods and student questionnaires. Of the participants who completed questionnaires, 40% reported using the library for at least half of the work they did outside of class. In addition, researchers determined that library users have contradictory views of the library in terms of noise levels and what attracts them to library spaces. Responses regarding library noise levels were split nearly in half with 53% of participants stating that they used library spaces to study individually due to the quiet environment and 66% citing use of library spaces for group work. May and Swabey concluded that libraries have the responsibility to give users access to quiet study spaces while also providing alternative settings for
collaboration and socialization.

In a similar study, Webb, Schaller, and Hunley (2008) evaluated how space was used in the library and how library spaces could be planned to best support student learning. Their study was conducted in an academic library setting, using two separate surveys combined with student observation. Webb et al. captured video recordings to determine choices students made about using library space. The first survey asked students to determine the "best" and "worst" places to study on campus and cite reasons for their choices. Forty-six percent of participants referenced the library as the best place to study due to its quiet atmosphere, comfort, and convenience. The second survey focused specifically on student preferences for library spaces, services, and activities. The survey revealed that students preferred library spaces with comfortable furniture and windows with outside views. The video recording included a sweep of library spaces and was completed once per hour over a week during library business hours. Researchers studied students' activities and their levels of engagement with certain tasks. Throughout the span of the video recorded sweeps, the researchers found that 78% of students were engaged in academic tasks, over half of whom were reading. Webb et al. determined that in order for spaces to adequately support student learning they should be quiet, well-lit, comfortable, and aesthetically-pleasing. They concluded that the library is a "laboratory, a place to study, and a place to understand student behaviors" (p. 421).

The previous studies show that despite the modern library community's shift toward support of 21st century learning, maintaining access to quiet spaces should still be an essential aspect of library management.
School Library Stakeholder Perspectives

In addition to considering the library as a space to support 21st century learning and quiet reading and studying, it is important to consider library stakeholder views of school library programs. Former AASL president, Nancy Everhart (2013), designed a focused research study to determine what attributes made for exemplary school library programs. Everhart’s central argument was that library stakeholders (most notably parents and students) “may not see school librarians as educated professionals who play an active role in the academic community” (Everhart, 2013, para. 6). Using the AASL rubric for school libraries, Everhart evaluated 35 school libraries that had already been identified as outstanding by the AASL. Using observation, interviews with students, teachers, parents, and administrators. Findings indicated that exemplary library learning spaces were welcoming and displayed evidence of student ownership. Everhart determined that the physical appearance of the libraries was irrelevant; what mattered most was that students and staff felt that it was a place of “joy and celebration” (para. 16). While Everhart did not break survey responses down according to specific stakeholder groups, these findings point to a need to create library spaces where students and teachers feel welcome and comfortable and enjoy spending time.

Given the AASL’s quality school library program guidelines emphasize the need for spaces that students and teachers want to use, it is important to highlight the connection between library use and student learning. School library research findings have time and again pointed to a connection between quality school library programs and increased student achievement (Everhart & Mardis, 2014). However, this correlation is often “ignored or dismissed” by library stakeholders (Everhart & Mardis, 2014, p. 1).
Everhart and Mardis (2014) used findings from the Pennsylvania School Library Project as the subject of a focus group for library stakeholders. The Pennsylvania School Library Project (Lance, Rodney & Hamilton-Pennell, 2000) was designed to educate school library stakeholders about the positive impact of school library programs in effort to advocate for school libraries in their state. Everhart and Mardis conducted a series of focus groups with school administrators, students, parents, and community library employees. Findings aligned with the assumption that stakeholders are unaware of the connection between school library programs and student achievement. These findings indicate that thorough stakeholder education is essential when planning library spaces to support 21st century learning.

Although library stakeholder groups embody a wide range of perspectives, administrators are arguably the most powerful in terms of planning library spaces. Church (2008) examined principals’ views regarding the role of the school librarian in order to investigate possible sources of their views. The target population for the study included principals serving in elementary schools in Virginia. Church compiled a survey which included questions regarding the instructional partner and teaching roles of the teacher librarian and asked about administrators’ beliefs about teacher librarians’ contributions to student learning. Out of 110 participants, the top teacher librarian responsibilities identified were teaching the use of print and electronic materials, teaching about ethical use of information, collaboration with classroom teachers, and acting as an active participant in the school improvement process. Most of the principals surveyed based their responses on past experiences working with a teacher librarian. Only 9% of participants stated that their principal preparation programs included coursework about
working with teacher librarians. This study indicates that teacher librarians can take an active role in educating administrators about the importance of the physical school library space.

The studies summarized for this subtheme show that library stakeholders have varied expectations for school library programs (Everhart, 2013; Everhart & Mardis, 2014), and that school librarians must take an active role in educating stakeholders about their professional role and the purpose of school library programs (Church, 2008). Studies of school library stakeholder views inform the current study by indicating a need to examine the purpose of school library programs.

Summary

Several studies have investigated the role of the school library program and the purpose of the school library space. This review of literature reveals a need to educate school library stakeholders on the impact of quality school library programs on student achievement (Church, 2008; Everhart, 2013; Everhart & Mardis, 2014). The literature also emphasizes that school library spaces must be designed in ways that are user-friendly and support the needs of all learners (May & Swabey, 2015; Webb et al., 2008). This current study will explore ways in which school libraries are supporting 21st century learning skills by balancing collaborative and social spaces with quiet spaces.
CHAPTER 3

METHODOLOGY

School library spaces should be designed to support the needs of all students by providing access to both space and resources. Therefore, it is important to consider ways in which school librarians have allocated space within their libraries. The purpose of this study is to explore ways in which school library spaces can function to serve the needs of 21st century learners. Through this study, the researcher examined the ways in which secondary school librarians have created an inviting atmosphere that satisfies a need for quiet study space and social and collaborative space. In addition, the researcher explored ways in which school librarians find a balance in managing expectations that the library space functions either as a learning commons or a quiet place to read and study.

Research Design

In order to determine how school librarians allocate space within their libraries, the researcher conducted a qualitative study using discourse analysis. Discourse analysis is a method of interpreting communication (written or spoken) in the context of a social framework (Wildemuth, 2009). Wildemuth (2009) states that, “people use speech/text to construct versions of their social world” (p. 321). According to Wildemuth, people within common groups often share similar thinking, and discourse analysis examines ways in which communication is representative of a social reality. The discourse analysis method was appropriate to this study because the researcher focused on teacher librarians’ perceptions of school library spaces. Discourse analysis allowed the researcher to consider teacher librarians’ perceptions of school library spaces and how those perceptions impact physical library spaces.
Participants

Given that this research investigated ways in which teacher librarians allocate space for 21st century learning, participants were limited to teacher librarians. The researcher limited the number of participants to three, based on recommendations from the Wildemuth text that "a small sample size is often sufficient because a large number of linguistic patterns are likely to emerge from just a few people or sources" (p. 323). Each participant had experience working in a school library setting and altered or eliminated "traditional" features of school library spaces to incorporate elements that support 21st century learning skills. Because the interview guide included questions about transitioning library spaces and reflecting on past, present, and future implications of these changes, it was important to interview participants with experience in the teacher librarian role. Participants had worked in a school library setting for two years or more and had an active role in transitioning their library spaces to incorporate elements of the learning commons model.

The researcher recruited participants by sending an e-mail invitation via the SLIK-12 listserv, an electronic forum serving teacher librarians and school library advocates in the state of Iowa. Criteria for participation was included in the invitation message. Interested parties were asked to complete a simple online survey to verify eligibility, and the researcher made final selections based on information gathered from the survey. The researcher contacted participants within one week of completing the survey to verify continued interest in the study and to determine next steps.
Procedures

Data Sources

The researcher developed an interview guide using the semistructured interview approach. According to Wildemuth (2009) this data source allows researchers to analyze individuals’ reactions and perceptions to situations and phenomena. Semistructured interviews are created with the assumption that individual people may have different thoughts about one idea; this method allowed the researcher to consider varied perspectives in the data analysis. Conversely, considering Wildemuth’s note regarding parallel thinking of people in similar social situations, the researcher assumed that the teacher librarians interviewed would share certain perspectives.

The researcher designed an interview guide with open-ended questions to be used flexibly throughout the interviews, as recommended in Wildemuth. The order of questions depended on participants’ answers to preceding questions and varied during each interview to ensure that responses were authentic. Interview questions focused on teacher librarians’ perceptions of their school library spaces including changes that have occurred within their libraries, student use of library space, and ways in which their library spaces support 21st century learning skills. Interviews were audio recorded with participants’ permission, and the researcher took notes during the interviews.

Data Analysis

The researcher analyzed interview responses using discourse analysis. According to Wildemuth (2009), discourse analysis requires “careful, close reading of the discourse/texts being analyzed; and an exhaustive, repetitive framing and reframing of the data until conclusions can be drawn that are well-supported” (p. 323). The researcher
first transcribed summaries of the audiorecorded interviews. Next, the researcher coded the data within the transcripts to determine common themes and categories (see Appendix B), considering Wildemuth's recommended broad approach to categorization.

Next, the researcher closely examined interview transcripts to identify patterns, variations, contradictions and common assumptions within participants' responses. From this close examination the researcher formulated hypotheses regarding teacher librarians' perceptions of school library spaces. The researcher revisited the interview transcripts to verify textual evidence to support hypotheses from the previous step. With this textual evidence, conclusions were drawn with consideration to the research questions. Finally, the researcher re-examined coded texts to interpret meaning and draw conclusions from the data using textual evidence as validation.

Limitations

Because qualitative content analysis requires the researcher to formulate theories and use intuition to interpret data, this research method had several limitations. Although theories must be thoroughly researched and supported, it is possible for different researchers to draw different conclusions based on the same information (Wildemuth, 2009). Wildemuth (2009) also notes potential for researcher bias during semistructured interviews. The researcher may have had a preconceived idea concerning aspects of the ideal 21st century school library space. This was taken into consideration when interviewing participants whose scope of knowledge or experience differed from that of the researcher.
CHAPTER 4
RESULTS

The purpose of this research study is to explore ways in which the school library space can function to serve the needs of learners in the 21st century. Findings from this study align with findings from the literature review that point to a need for balancing collaborative, social spaces with quiet spaces for reading and individual study.

Findings

This study included three teacher librarians working in three separate public school systems in Iowa. School District 1 is located in a rural setting and serves approximately 700 students. Teacher Librarian A serves both the elementary and secondary buildings in the district as a half-time employee in each. She is the only teacher librarian in the district. School District 2 is located in a rural setting and serves around 1050 students. Teacher Librarian B works in the high school, serving grades 9-12 and is one of two librarians in the district. School District 3 is located in a suburban environment and serves about 6700 total students. Teacher Librarian C serves approximately 1500 students in grades 10-12 and is one of seven teacher librarians in the district.

An initial interest survey was sent to teacher librarians and school library advocates via the SLIK-12 listserv, an online discussion group of school librarians serving in K-12 schools. A total of seven teacher librarians responded, indicating an interest and willingness to participate in the study. Of the seven participants, three participants were selected based on their number of years in their current positions and the amount and types of changes made to their current school library spaces. The
researcher conducted one face-to-face interview, one Skype interview, and one interview using Google hangouts in each instance utilizing an open-ended interview guide (see Appendix A).

The researcher transcribed, coded, and analyzed interview texts for common categories, themes and sub-themes (see Appendix B). The researcher then analyzed responses for patterns, correlations and contradictions regarding the following research questions:

1. In what ways do school librarians create an inviting space (or spaces) that satisfy academic, personal, social and emotional needs of students?
2. In what ways do school librarians find a balance in managing expectations that the library space functions either as a learning commons or a quiet place to read and study?

As a result of the analysis, the researcher identified several overarching themes from the participants' responses. These themes include the following: Contributing Factors for Inviting Spaces, Balancing Learning Commons Elements and Stakeholder Expectations, and School Library Stakeholder Views.

**Contributing Factors for Inviting Spaces**

As teaching and learning methods evolve, so must the school library space. Interview questions sought to determine factors teacher librarians considered when creating school library spaces that students wanted to use and that fulfilled students varied needs. Teacher Librarian A's overall goal was to "make the library more inviting." All three participants began by rearranging furniture and getting rid of unnecessary items. Book weeding was the most common practice. All three participants commented that
weeding made their spaces look cleaner in removing old and outdated materials while also providing more physical space.

However, weeding practices varied among participants. One began by weeding heavily in fiction and nonfiction. Another eliminated the reference section because resources were duplicated in online databases. Reference materials without a similar online component were integrated into nonfiction. The third is currently in the process of weeding gradually, about 5-10% per year. In all three cases, the purpose of weeding was to remove shelves to open up space and improve sightlines from the circulation desk.

Two participants removed tall shelving units from the center of their libraries altogether and currently house books on shelves along the outer walls. Each respondent cited moving furniture and adding soft-seating as next steps in the process. Teacher Librarian B commented, "I’ve already gotten rid of two shelves, so that creates space and creates a need for more furniture, but it also gives you more room to work with."

Additionally, all three participants converted existing office space to either diversify library space for student use or provide office space to support other district personnel. Teacher Librarian A converted her personal office space in her high school library to a coffee shop in response to an administrator’s request. She also turned another small office off of the library common area into a makerspace. Teacher Librarian B converted four small office spaces off of her main library’s common space: one is now a makerspace and the other three are available for students to use for individual study or quiet reading. Teacher Librarian C moved out of her personal office and cleared out the school’s professional library to create office space for two instructional coaches. In response to how she felt about relinquishing her personal office she commented, "I’d
rather be out with the kids anyway.” Her transition to a permanent position at the
circulation desk helped build relationships with students and increased traffic patterns in
her library significantly. Teacher Librarian C devoted three separate conference rooms,
previously being used for storage, to student workspaces for quiet reading and individual
study. These spaces contain tables, chairs, and whiteboards and are also used for small
group work.

Subsequent steps in the process of making library spaces more inviting varied for
each participant. Teacher Librarian A used a $5000 donation to design and paint a
colorful mural on existing cream-colored library walls to make the space more “warm
and welcoming” and “kid-friendly.” In addition to painting, she added a student-designed
stage area, as well as mobile shelving units for easy reader materials.

Teacher Librarian B commented that funding was limited so her goal was to
modernize the space as inexpensively as possible. She moved old furniture and unwanted
items out of the library and made a reading corner at one end of the library, which her
students use frequently. In addition to cost-free modifications, she purchased a spinning
magazine rack with her own funds which allows students more convenient access to
available materials.

In order to update school library spaces to support 21st century learning, careful
consideration should be given to features that draw students to the space. All three
teacher librarians commented that soft seating areas were most popular with students in
their libraries. Teacher Librarian B commented that the only drawback to providing this
type of seating is that she doesn’t have enough soft seating in her library to accommodate
all students. She said that while she has other upholstered wooden chairs they aren’t as
“cozy” as she’d like them to be. Soft seating provides students an experience that differs from traditional classroom desks. In all three participants’ libraries, soft seating areas are used for reading, studying, and socialization.

Two participants cited lighting as a determining factor in welcoming spaces. Teacher Librarian A expressed a desire for an increase in natural lighting and a decrease in fluorescent lighting. She said that her library felt “dark” due to tall shelving and fluorescent lighting that filtered the light straight down. When she removed tall shelving from the middle of the library that blocked outside windows, natural light increased significantly, although she said she’d like more. Teacher Librarian B appreciates having a skylight and large windows in her library. She commented that without window treatments it is “nearly impossible” to use a projector on a sunny day, but that she wouldn’t want to give up the natural light that contributes to a welcoming atmosphere.

When asked about flexibility within their current library spaces, all three participants indicated a need for flexibility in the arrangement of fixtures. Participants commented that, outside of moveable tables and chairs, little to no flexibility exists within the space. Unanimously participants cited mobile shelving as their number one desire to increase flexibility in the use of space.

Another theme emerging from participants’ responses was a need for an overall increase in the amount of physical space. All three participants converted existing library spaces to integrate makerspace materials. Teacher Librarians A and B converted existing office spaces within the library to makerspaces, and Teacher Librarian C designated one corner of the library’s common space to store makerspace materials and provide room for students to work. The success of makerspaces in all three libraries indicates a need for
accommodating this element moving forward. This feature supports the mission of 21st century learning by giving students an opportunity to choose what they learn and to use creativity while also building critical thinking skills. Makerspace activities are intended to support the overarching school library mission of providing students access to information and materials.

Ultimately, the goal of each teacher librarian was to make changes to existing library spaces that would increase students' use of the library and library materials. When asked to describe the current overall atmosphere in their libraries, all three participants commented that their libraries were more welcoming and student-friendly as a result of changes to the space. Teacher Librarian C said that the atmosphere of her library is casual. "A lot of students visit to hang out. I'm good with that because when they come back to work I've built that relationship with them." Traffic has increased in her library, so much so that she often has to turn students away. Only one teacher librarian (C) directly cited student ownership as an essential factor in creating a welcoming atmosphere. Her library currently houses student-created paintings and a reading corner with soft seating, a lamp, and charging station decorated by the interior design class. She indicated that eventually she'd like all of the artwork in the library to be student-created.

When asked to cite reasons for student use of the school library space, responses focused primarily on technology use and socialization. Teacher Librarian A's students are 1-1 with iPads, and students visit the library frequently to check out tripods. In addition, School Library B houses two Chromebook labs, and students come most often to use computers and headphones. Teacher Librarian C's students are 1-1 with iPads, but students often visit to use the centrally-located desktop computers. Teacher Librarian C
also noted the importance of outlets in a school library space, especially in a building that is 1:1. She commented that she checks out “a ton” of cameras and tripods. Also available are voice recorders, headphones, and wireless keyboards. All three participants have added soft seating areas to their libraries which increases opportunities for socialization and drives overall student use. “The couches are a huge draw,” remarked Teacher Librarian A.

Additional evidence of student use for all three library spaces includes reading, studying and assistance with technology devices. Only Teacher Librarian C commented directly that students visit her library to check out books. However, the other two mentioned an overall increase in circulation during other portions of the interview.

Another common element in all three libraries was the presence of a makerspace. Although the description of each makerspace varied in terms of space allocated and activities offered, responses regarding the purpose of the makerspace were unanimous: to provide students the space and materials to use critical thinking and creativity. Teacher Librarian A’s makerspace activities include video production with a green screen, virtual reality equipment, and a MacBook. Future plans include a recording studio at the high school.

Teacher Librarian B started very small with makerspace activities. Because she did not have a budget, she was wary of investing money in consumable materials that would require replenishment. Her makerspace currently includes a straw-building station, adult coloring book pages, and a Google Cardboard virtual reality viewer. She wrote a $500 grant for a green screen and robotics materials “to see if it would go anywhere,” and would like to add a 3-D printer. She added, “We are struggling a little with the
makerspace… So it’s a work in progress. There are just millions of things students are doing with makerspace[s].” Despite existing struggles, she was eager to continue trying new things.

One back corner of School Library 3 is dedicated to makerspace activities. Operating without a budget, Teacher Librarian C requested donations for materials through social media, and as a result ended up with “the most random conglomeration of stuff.” Projects are completely student-directed based on available materials and items that students provide themselves. She remarked that one student created a candle holder out of a candy tin, duct tape and granite garden rocks that he was proud to share with students and teachers. Another student in her school is building a three-sided green screen out of plywood and sheets that will double as a white board for project planning for future makerspace endeavors. Her library received a donated sewing machine, prompting an aspiring fashion designer to learn about working with upholstery fabrics. In addition, Teacher Librarian C added board games this year for students to use as they wish. This participant felt so strongly that the makerspace aspect of the library is filling a critical niche in her school that she remarked, “[This] makerspace here is going to be what saves our jobs.”

Balancing Learning Commons Elements and Stakeholder Expectations

Consequently, along with a more welcoming and casual environment where students are encouraged to socialize and create, comes an increase in noise levels, an environment that differs from libraries past. Teacher Librarian A stated, “my tolerance for noise is probably too high.” She went on to add that she has difficulty defining appropriate noise levels. Additionally, a majority of her high school library space is often
populated by study hall students whose study halls are permanently assigned to the library. Her space is heavily populated for a majority of the school day. She also has a separate ICN room that students can use for quiet individual study if needed.

Both Teacher Librarians B and C have divided their libraries into zones determined by acceptable noise levels in an effort to preserve space for both quiet and social activities. Teacher Librarian B has a collaboration zone, a quiet zone, and a silent zone. The collaboration zone consists of tables and 20 chairs. Teachers use this area when offering whole-group instruction in the library. However, the collaboration zone has fewer seats than the required number for a whole class, so some students must sit in a different zone. The quiet zone is reserved for games such as chess or puzzles, and the silent zone houses individual tables and a reading nook.

Teacher Librarian C remarked, “I like my zones.” She has a blended learning area which includes a mix of soft seating and table space, computers with the soft seating in the middle of the library, and a side of the library devoted to teaching and student collaboration. In addition, a separate reading nook with soft seating is available at one corner of the library.

School Library Stakeholder Views

Regardless of teacher librarians’ perceptions of how school library spaces support 21st century learning, it is clear that some school library stakeholders need education regarding the rationale behind teacher librarians’ decisions, including positive outcomes associated with changes to the space. A common assumption is that school library stakeholders are unaware that the cycle of weeding and purchasing aligns with library management best practices. According to participants, most of the feedback received
from teachers and administrators focused on the removal of books from the library. Teacher Librarian A shared that stakeholder feedback was that she had deselected too many books. She said, “I will not apologize for weeding... I’ve built a very good collection with weeding and purchasing.” Teacher Librarian B’s responses were similar. She is currently working on educating teachers who are astounded that she’s getting rid of books to make space in her library. She indicated that the impression is that weeding books will lead to the school district eliminating her position.

Another point of contention among participants and library stakeholders is difficulty transitioning from a more “traditional” library setting to an environment that reflects the learning commons model (Koechlin, Zwaan, & Loertscher, 2008). Teacher Librarian B indicated a struggle in finding a balance of a comfortable and academic atmosphere in her library. She is working to find some “middle ground,” which requires justifying all decisions to administrators. Additionally, each respondent indicated that teachers need to be educated on how to use space in a way that supports student collaboration and inquiry; to use the space as an extension of their classrooms.

Regardless of questions raised by teachers and administrators, according to participants, student feedback regarding changes to school library spaces has been largely positive. “I think they appreciate that I give them that autonomy,” commented Teacher Librarian B. Teacher Librarian C added that feedback from her students was all positive. She shared that one 11th grade student said that before he “never came to the library,” but now he visits frequently. Comments like this drive her work each day. Teacher Librarian A said, “I look at the library as a third space, to give them that safe space to be. The kids
begin to see the library as a place to go to hang out, and I think that’s an absolutely positive thing.”

The final interview question asked participants to comment on what they believe to be the most important features of a school library space. Each spoke from a philosophical standpoint while commenting on how space impacts student use. Teacher Librarian A said that what happens in a library and the work the teacher librarian does each day is more important than the space. “Who you are as a librarian sends a much bigger message than the space… Because I could have a small, dark, gloomy library, and I would still send that message.” Ultimately she wants her library space and her collection to outlive her time in her current position.

Teacher Librarian B remarked, “I would like to see makerspaces everywhere-- it’s all about [students’] choices and motivations.” She added that she wants the space to be flexible and meet the needs of students and teachers; flexibility is the number one factor contributing to usable school library space. She says, “Based on the struggle I’m having, I don’t want a space that’s blocked off. [It would be] nice to have a little more zoning and physical barriers, not so much rooms.” Teacher Librarian C also indicated that flexibility was a huge factor. She wants a space that is able to change with times.” She added:

Flexibility is the underlying feature. We can’t move the circulation desk, computers, or shelves so we are stuck without major work. You never know from day to day what you’re going to need or what technologies will come along. And if you can’t move things, you’re stuck; it’s harder to change.

Teacher Librarian C’s use of the word “stuck” echoes the reactions of the other two participants. Teacher librarians are being called upon create spaces to accommodate an increasing range of needs that change as technology and education evolve. Features of
library spaces of the past (the aforementioned circulation desk, for example) are creating barriers to updates that best support student learning.

**Summary of Findings**

Major factors contributing to satisfying the needs of students include the availability of soft seating and areas for socialization, diversity within the space, allowance for varied noise levels, availability of technology, and activities and free-choice options including games and makerspace materials. Participants from this study aim to balance expectations about the use of space by separating their libraries into zones and offering alternate spaces for different types of student use. Additionally, participants revealed that often stakeholder groups may misunderstand motivation for changes to school library spaces.
The purpose of this qualitative study is to explore ways in which the school library space can function to serve the needs of learners in the 21st century. Additionally, this study explores teacher librarians' perceptions of school library spaces in terms of what features best support 21st century learning. Findings were used to determine which features of school library spaces best meet the social, emotional, and academic needs of all learners. Three teacher librarians from public school systems with responsibility for secondary libraries participated in the study. Participants completed an initial interest survey in which they indicated the number of years of service in their current positions and changes they made to the school library space to better meet the needs of students.

This study found that a school library atmosphere conducive to learning that students want to use includes areas for socialization, collaboration, quiet individual study, and free-choice activities. Participants indicated that access to technology was a driving factor, as cited in Miller and Bartlett (2012). While this observation provides little new insight into methods of supporting 21st century learning, this data supports the idea that library spaces must evolve as educational initiatives and technologies evolve. If school libraries wish to maintain a presence in schools and a valued position in education, changes to space must be made to adhere to the needs of learners in the 21st century.

"Traditional" library spaces with rows of tall shelving, stacks of books, stationary furniture and fixtures, and silent common areas no longer fit students' needs. However, the assumption is not that students no longer need quiet spaces. Rather a shift has occurred in where those much needed quiet spaces are located. Rather than devoting one
large common space to silence, participants from this study chose to convert offices or conference rooms off of their main library spaces into quiet spaces for students while devoting common areas to socialization and student collaboration.

Another observation emerging from this study is that books are no longer the primary focus or primary purpose of the school library’s existence. This observation does not imply that books are irrelevant. Instead, students are visiting the library chiefly to fulfill other social, emotional, and academic needs. All three participants indicated a need for weeding to maintain a current and robust collection, and two of the three participants commented on significant increases in circulation and traffic patterns as a result of weeding. Students who feel welcome at the library will use the space and materials.

Above all, the importance of student choice is the strongest theme emerging from this study. Kyungwon and Abbas (2015) indicated a need for makerspace in schools to support critical thinking skills and technology use. Each participant gave a detailed description of makerspace implementation, along with celebratory accounts of student projects and successes. Makerspace was the common topic across all three interviews wherein each respondent shared positive experiences. While each teacher librarian shared minor struggles, each spoke to the positive impact makerspace activities have on students. This commonality illustrates the importance of giving students an opportunity to explore a topic that they are intrinsically motivated to pursue. These findings indicate that school libraries can be instrumental in providing opportunities to be creative in a unique setting that is unlike any other in the school.

In addition to conclusions drawn about student use of school library spaces, data collected for this study indicate a need for educating school library stakeholders about the
rationale behind school library decision-making processes. Church’s (2008) study, along with findings from the Pennsylvania School Library Project point to this need (Lance, Rodney & Hamilton-Pennell, 2000). Each participant shared evidence of misunderstanding among school library stakeholders about the purpose of the school library space. Furthermore, this study revealed that some school administrators are reluctant to let go of the traditional library setting, which may point to a lack of clarity of the benefits associated with embracing the learning commons model. What may be needed in these cases is careful data collection combined with purposeful education of school administrators.

**Recommendations for Future Research**

Given that the sample size was small for this study, this researcher would be interested in conducting interviews with a larger sample of teacher librarians. Interviewing teacher librarians working in schools that are not 1-1 with technology would also benefit this study. Responses regarding technology use and library space allocation would likely differ in schools relying more heavily on computer labs or laptop carts. Additionally, the researcher would be interested in extending the sample group of participants to include students, classroom teachers, and administrators to form correlations among responses and gain insight into conclusions drawn from this study. Another extension of this research could include observations of student behaviors in school library settings and surveys to be completed by other school library stakeholders. These varied perspectives would provide well-rounded data to inform future decisions regarding school library spaces.
REFERENCES


Overview

1. How would you describe the atmosphere in your library?
   a. Why do students in your school visit the library?

2. Describe your library space before you started making changes, ie:
   a. reasons for student use
   b. traffic patterns
   c. behaviors observed

3. When you began making changes to the library space, where did you start? What factors led to that decision?

4. What has worked well? Have you made any adjustments since you began with initial changes?
   a. What types of adjustments?
   b. Why did you decide to make these adjustments?

5. If you could divide your library space up into categories (ie: reference, computers, areas for group work, etc.), what might they be? What approximate percentage of your total space is devoted to those areas?

6. Is there any flexibility allowed within how the spaces can be used?

School library space for quiet, individual reading/study

7. With the transition to the learning commons model, have you maintained quiet space to read and study?

8. What methods have you found effective in supporting individual reading/ studying?

9. What features have you added/chosen to include in your school library space that supports students’ abilities to read and study? What areas are most used for quiet reading or studying? Can you describe the features of this area?
   a. Furniture (What types of furniture do students use the most?)
   b. Surroundings
   c. Noise level
   d. Proximity to other features of the space

School Library Space for collaboration/ 21st Century Learning

10. What features have you added/chosen to include in your school library space that improves students’ abilities to collaborate and socialize? What areas are most used for collaborating?
a. Furniture (What types of furniture do students use the most?)
b. Surroundings
c. Noise level
d. Proximity to other features of the space

11. What methods have you found effective in supporting student collaboration and other 21st century learning skills?

12. What objects or technologies do students in your library prefer to use? What areas are most utilized for technology use?

**Summary/ Closing**

13. Looking at the big picture, how have these changes impacted students’ use of the space? Do you have any input or evidence to share how changes have influenced student learning?

14. What feedback have you received (either formal or informal) regarding the changes?

15. What do you perceive to be the most important features of a school library space?
### APPENDIX B

**Coding Categories, Themes and Sub-themes**

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<tr>
<th>Category</th>
<th>Theme</th>
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<td>a. Seating&lt;br&gt;b. Aesthetics&lt;br&gt;c. Shelving (books and other materials)&lt;br&gt;d. Table Space&lt;br&gt;e. Floor Plan</td>
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<td></td>
<td>2. Noise levels</td>
<td>a. &quot;Traditional&quot; vs. Learning Commons&lt;br&gt;b. Zoning for noise levels</td>
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<tr>
<td></td>
<td>2. Areas to Support Collaborative learning</td>
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<tr>
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<td>3. Technology</td>
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<td><strong>Stakeholder Views</strong></td>
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