Teachers’ Attitudes Toward Library Use

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The purpose of this mixed-method study was to explore attitudes of high school teachers toward the use of the school library by students to complete research projects. Public high school teachers were surveyed (N=81) about their attitudes toward student use of the school library. Statistical analyses revealed no significant differences among teaching disciplines nor between genders. Tests also revealed no correlation between survey responses and time teaching. Interviews were conducted to further explore attitudes toward student library use. Interview results suggested that teachers considered the library useful in the completion of research projects but were reluctant to require students to the library. The results suggested that strategies are necessary to mitigate reluctance to include school library resources as a component of assigned research projects.

Introduction

The role of the librarian has changed drastically over the past two decades. Librarians are tasked less to be finders of information, and more as guides for good information seeking practices (Arua et al., 2019; Nitecki & Davis, 2019). The consequences of this shift are especially important to understand in school and academic libraries because one of the major roles of the librarian in these libraries is to instruct (Ash-Argyle & Shoham, 2014; Gerolimos et al., 2015). Many researchers have examined the behaviors and attitudes of instructors at the undergraduate and graduate level toward library use (e.g., Guthrie & Housewright, 2011; Kelly, 2019; Nelson, 1973; Roberts & Heath, 2018); however, there seems to be comparatively little research focused on students and teachers at the secondary school level. A better understanding of the attitudes and expectations of secondary school students and teachers toward the library and the role of the librarian of has implications across multiple disciplines. Such an understanding can help inform pedagogical development of curricula, cognitive development of adolescents, and library practices at the secondary and other levels.

While few studies have focused on high school teachers’ attitudes toward library use, many researchers have examined the attitudes of this population toward educational practices in general, with many studies finding significant differences among gender, years teaching, and teaching discipline. Semerci and Aydin (2018) found significant differences in the attitudes of high school teachers among gender and teaching experience toward the use of information communication technologies (ICTs) in the classroom. Thibaut et al. (2019) similarly found significant differences among gender and years teaching in this population’s attitude toward integrated STEM education. Differences among teaching disciplines were found in the ability of high school teachers to provide financial education (De Beckker et al., 2019). These findings raise the question whether these differences in attitudes are present with regard to library use.
While the independent research project is disappearing from high school curricula (Conner, 2010), the skills necessary to complete these types of projects are desirable as students transition to college and the workplace (O’Sullivan & Dallas, 2010). A collaboration between teachers and school librarians has been shown to be beneficial in developing these skills (Montiel-Overall & Grimes, 2013; O’Sullivan & Dallas, 2010). This study assumes that the development of sound research skills for secondary school students is desirable, and that teachers who assign research projects expect that the research component of such projects is a significant component of the project. It is also assumed that students and teachers have access to a school library managed by a professional librarian.

The purpose of this study is to examine the attitudes of teachers toward the use of the school library by their students when completing research projects. Teachers were asked to articulate reasons why they might be reluctant to require students to use the school library and to meet with the school librarian as a component of a research project. Both objectives will illuminate areas that are lacking, with the long-term goal of addressing those areas in order to provide better service for this population.

**Definition of Terms**

According to the Department of Health and Human Services, research is “a systematic investigation ...designed to develop or contribute to generalizable knowledge”(45 CFR 46, 2016). However, research in the sense of a secondary school assignment often has a slightly less restrictive meaning. For this study, *research* is conceptualized to mean information inquiry on the part of the student that does not involve direct instruction from a teacher. For example, when a teacher tells students to pick a topic for their final paper that is not something that has been covered in class, this will require the student to do research. A *research project* is conceptualized to mean the entirety of the process of an assignment from a teacher that involves research and includes a deliverable. In the example above, the totality of the project involving the final paper constitutes a research project.

*Attitudes toward* for this project is conceptualized to mean feelings about the effectiveness, necessity, and utility of the item in question. The *school library* was conceptualized to encapsulate both the physical space of the library and the physical and electronic resources accessible through the library. The *school librarian* is conceptualized to mean the person facilitating access to the library, offering help to the students and faculty in the use of library resources, and offering instruction in general research practices.

**Research Questions and Hypotheses**

The study explores potential differences among teaching disciplines or differences among genders in how high school teachers conceptualize the use of the library by their students in the completion of research projects. The study also explores potential correlation between the amount of time a teacher has been in the profession and their attitudes toward library use in this context. We seek to answer the following research questions and propose the following hypotheses:

RQ1. Do teachers consider the role of the school library and the role of the school librarian when conceptualizing research projects?  
RQ2. Do teachers view the school library and the school librarian as essential components for their students to complete research projects?  
RQ3. Do teaching discipline, length of time teaching, or gender affect teachers’ attitudes toward the role of the school library and the role of the school librarian when conceptualizing research projects?
H3a. There is a significant difference among teaching disciplines in how likely teachers are to assign research projects, expect students to use library resources in completing research projects, require students to use library resources in completing research projects, how useful the school library is considered, or how useful the school librarian is considered.

H3b. There is a statistically significant relationship between length of time teaching and how likely teachers are to assign research projects, expect students to use library resources in completing research projects, require students to use library resources in completing research projects, how useful the school library is considered, or how useful the school librarian is considered.

H3c. There is a significant difference among genders in how likely teachers are to assign research projects, expect students to use library resources in completing research projects, require students to use library resources in completing research projects, how useful the school library is considered, or how useful the school librarian is considered.

**Literature Review**

The main themes discussed in this literature review are the effect of school libraries on academic achievement, teacher-library collaboration, and hindrances to students’ use of the library. The effectiveness of the library in helping students complete research projects is a potential factor in the correlation between school libraries and improved academic performance and may indicate areas toward which library resources should be allocated, such as instruction in research practices, use of research databases, and more effective teacher-librarian collaboration.

**Effect of School Libraries on Academic Achievement**

Scholars (e.g., Lance, 1994) have suggested a positive correlation between students’ academic achievement and presence of a quality library. Lance and fellow researchers (1992) conducted what has become known as the Colorado study, which confirmed the relationship between the presence of school libraries and improved standardized test scores. The Colorado study was followed by the Second Colorado study, which focused on the impact of the library media specialist rather than the role of the library itself (Lance et al., 2000). These findings have been replicated in a number of other studies in Alaska (Lance et al., 1999), Oregon (Lance et al., 2001), Pennsylvania (Lance et al., 2002), and Illinois (Lance et al., 2005). These results were synthesized and augmented in a later study that took place in Pennsylvania (Lance & Schwarz, 2012), which surveyed 389 Pennsylvania school districts regarding library staffing, spending, equipment, and resources, and obtained standardized test results for the surveyed schools. The researchers found consistent, statistically significant positive correlation between library staffing, spending, the presences of new technology, and the presence of robust resources and increased test results. The results of these studies indicate that academic achievement is indeed positively correlated with the presence of a library and embedded information professional.

Despite the empirically confirmed results of the Colorado-type studies, Lance and his colleagues (Lance & Russell, 2004) identified the lack of a theoretical framework against which to interpret the results as hindrance to further research; the results showed that the presence of libraries has a positive impact on the academic achievements of students, but the results do not indicate specific factors that contribute to the improved academic achievements. Proposed factors contributing to the observed increase in academic achievement include student-to-faculty ratio, per-
student library spending, and the extent to which library media specialists use technology to facilitate information literacy (Lance, 2002). Further scholarship has been done in attempts to empirically investigate additional attributes of libraries that correlate with the improved academic achievement demonstrated in these studies, one of which is teacher-librarian collaboration (Montiel-Overall, 2005).

**Teacher-Librarian Collaboration**

Patricia Montiel-Overall (2005a) identified collaboration between teachers and school librarians as one of the potential underlying factors contributing to the Colorado-type studies’ results. Building off earlier preliminary work in teacher-librarian collaboration (Loertscher, 1988, 2000), Montiel-Overall developed a preliminary framework to describe teacher-librarian collaboration, known as TLC model (Montiel-Overall, 2005). This theoretical framework was further refined by Montiel-Overall and other researchers in a number of later studies (Montiel-Overall, 2008, 2009; Montiel-Overall & Grimes, 2013). Montiel-Overall (2009) identified four increasingly collaborative facets of teacher-librarian collaboration that contributed to increased academic achievement: Coordination, cooperation, integrated instruction, and integrated curriculum. These facets were empirically confirmed in a study of elementary schools in the southwestern United States (Montiel-Overall, 2009).

Despite the establishment of the benefit of school libraries and the development of a framework for teachers-librarian collaboration, studies suggest that teachers are reluctant to work with librarians. Wessels and Mnkeni-Saurome (2012) found that teachers were not well versed in information literacy practices; even basic library practices, such as Dewey Decimal classification and the differences between fiction, non-fiction, and reference materials were unfamiliar to the teachers. Hartzell (1997) synthesized a number of findings regarding the reluctance of teachers and administrators to engage with the librarian when developing curriculum, and found that a facet of this reluctance to be the lack of preparation for teachers to interact professionally with other educators, and that librarians are thought of as “one step removed from students” (1997, p. 25). The reluctance of teachers to work with librarians was compounded by the students’ reluctance to use the library themselves (Hartzell, 1997).

**Hindrances to Students’ Library Use**

In general, the information seeking skills of youth are imperfect. Few studies have been conducted on the information seeking practices of high school student in terms of specific class-assigned projects. The general information seeking behavior of elementary school students has been discussed, with the consensus being that these students had difficulty in formulating appropriate search terms (Borgman & Hirsh, 1995; Hirsh, 1997, 1999; Marchionini, 1989). Marchionini (1989) found that that age had a positive correlative relationship with search ability, and that younger researchers preferred heuristic, interactive search strategies. Borgman and Hirsh (1995) discovered that young students had difficulty formulating search terms and using Boolean logic These results were confirmed by Hirsh (1997, 1999), who identified prior subject knowledge as having positive impact on the children’s search ability. More recently, researchers have found that a lack of content knowledge and language skills create barriers for children seeking information in a digital environment (Kohout-Tailor, 2018). Shenton and Dixon (2004) found that a common information seeking pattern across all age levels was to simplify the search task and reduce the search effort. The simplification of search tasks is beneficial as more complicated search tasks tend to negatively affect the ability to effectively find information (Walhout et al., 2017).
Studies (Neuman, 1991, 1993) involving high school students’ information seeking behavior have identified gaps in appropriate search facilitators, such as database tools designed for older users and a lack of effective search strategies among this population. Pitts (1994) identified prior learning experience as a significant contributing factor to high school students' search behaviors. Chung and Neuman found that the information seeking behavior and use of high-achieving high school students in an information-rich environment was “interactive and serendipitous” (Chung & Neuman, 2007, p. 1503). Focusing on gifted high school students, McGregor (1993) developed a model of thinking during information use as these students completed research papers. The conclusion of McGregor’s (1993) study was the identification of several processes that contribute to information processing, and that these processes occur iteratively and somewhat concurrently. McGregor (1993) also found that the nature of the questions asked as part of the completion of the research paper influenced the type of information processing used to answer the question. Adolescents also tend to rush through the search process (Gregory, 2018), and are willing to accept suboptimal results rather than refine their search terms (Knight & Mercer, 2015). In addition to a lack of information seeking skills, students are reluctant to use the library because of library anxiety.

Most studies examining library anxiety focus on college students. The theory was developed by Mellon (1986) and has gone through a number of revisions and augmentations since. Bostick (1992) developed a numerical scale that captures the level of library anxiety experienced by library users. Further investigations have identified race (Jiao et al., 2006), gender (Karim & Ansari, 2011), and emotional intelligence (SeyyedHosseini et al., 2014) as affecting levels of library anxiety. While no studies have directly examined library anxiety experienced by high school students, researchers have identified the absence of high school library experience as contributing to library anxiety in college (Foote, 2016).

**Methodology**

A concurrent triangulation mixed-method approach (Doyle et al., 2009) was used for this study, which consisted of a quantitative survey and a qualitative interview. Survey results were used along with coded interview responses to answer the research questions and hypotheses. The qualitative interviews are the primary focus of the study, used to offer explanations to the phenomena observed in the quantitative survey.

**Participants**

High school teachers in Massachusetts from towns with populations greater than 10,000 were invited to participate in the survey featured in Appendix A. This population was chosen because of inconsistencies in the school structures of towns with smaller populations. After inspection, it was determined that towns with larger populations tended to have a secondary school that served only the high school population and included a school library. Of the teachers asked to participate, 81 agreed to take part in the survey. However, 13 respondents indicated that they did not assign research projects, and they were not asked to participate further. The survey yielded 68 useable responses. All 68 respondents were asked if they would be willing to participate in the interview, of which 23 responded yes. These 23 were contacted in random order to schedule the interview. This process continued until 10 interviews were scheduled. A last-minute scheduling conflict prevented one interview from being conducted. Nine interviews were conducted in total.

**Quantitative Procedure**
Quantitative data were used to answer Research Question 3 and its associated hypotheses: Do teaching discipline, length of time teaching, or gender affect teachers’ attitudes toward the role of the school library and the role of the school librarian when conceptualizing research projects? Quantitative data were collected for this study through a survey. The survey was divided into three parts and was administered via Google Forms. After consenting to participate, participants were presented with Part A, which asked for their teaching discipline, the amount of time they’ve been teaching, and gender. After this section, participants were presented with Part B, which asked if they assigned research projects to their students. An answer of “no” in Part B concluded the survey. An answer of “yes” in Part B moved the participant to Part C of the survey. Part C of the survey consisted of six questions, the responses to which were recorded on a 7-point Likert scale. The survey instrument is in Appendix A.

Survey answers regarding teaching discipline were grouped into three meta-disciplines: humanities, social science, and hard science. Kruskal-Wallis tests were performed on the survey results to determine if there were significant differences among meta-disciplines, e.g., Humanities, Social Sciences. Pearson correlation analyses were performed to determine the existence of a relationship between time teaching and survey responses. Mann-Whitney were performed on the survey results to determine if there were significant differences between genders.

Qualitative Procedure

Survey respondents were invited to participate in an interview, of which 23 indicated they would be willing to participate. A total of nine interviews were conducted, six of which were face-to-face and three through email. Interviewees were asked six open-ended questions. The researcher took notes and asked clarifying questions when necessary. The six questions asked during the interview were featured in Appendix B.

Interview responses were transcribed and coded to identify common themes. Interviews were analyzed and coded by the researcher using NVivo software. Interview transcripts were coded through several iterations. First, common ideas were identified in participants’ responses. Through successive rounds of coding, these ideas were collapsed into common themes.

Results

Survey Results

Of the 81 respondents, 13 were excluded from analysis because they did not assign research projects. Participant representation is summarized in Figures 1, 2, and 3. Figure 1 displays the composition of meta-disciplines.
Humanities made up the largest portion of respondents with 41.5% being categorized into this meta-discipline, followed by social science (38.5% of respondents) and hard science (20.0% of respondents).

Figure 2 shows the length of time teaching among respondents.

Respondents had a mean teaching time of 13.03 years, and a standard deviation of 8.621 years.

Figure 3 shows the composition of gender among respondents.
Most respondents were female (64.6% of respondents). Males comprised 30.8% of respondents, and 4.6% chose not to indicate a gender.

Respondents were asked six questions, each answered on a 7-point Likert scale. For questions SQ1-SQ4, a response of 1 indicated “Not likely at all,” and a response of 7 indicated “Very likely.” For SQ5 and SQ6, a response of 1 indicated “Not useful at all,” and a response of 7 indicated “Very useful.” Responses (N=68) in aggregate are summarized in Table 1.

Survey responses were not determined to be normally distributed, so non-parametric tests were used to analyze the data. Kruskall-Wallis tests were used to determine differences among meta-disciplines and between genders. Pearson’s correlation tests were used to determine relationships between time teaching and survey responses. There were no statistically significant differences in survey responses among meta-disciplines or between genders. No statistically significant correlation existed between survey responses and time teaching.

**Interview results**

**IQ1. When you conceptualize a research project, what specific steps do you envision the student taking in order to begin the project?**

All participants reported that topic selection was the first step in beginning a research project, followed by gathering resources. They admitted that online sources that were not appropriate as the sole source for the project were acceptable as places to start:

“I would have them go on Wikipedia or somewhere like history.com or you know somewhere that is not necessarily you know a great source to end up at, but it’s a fine like background building type of source.”

“And then they immediately go to Google, Duckduck whatever that one is called.”
“They’re going to Google some stuff which is fine. They inevitably, more than half are going to end up on Wikipedia.”

Two respondents reported that they consult with a librarian as part of the process of beginning a research project.

“I would meet up with the library media specialist so I would reach out to her and let her know that my students were doing research projects.”

“We sat down in here with the librarian.”

**IQ2. Do you feel that most students are capable of completing research projects without using the school’s library resources?**

All respondents except two (n=7) indicated they did not feel students could complete research projects without the use of the school’s library resources. Of the two who reported they believed students can complete research projects without the use of the school’s resources, one indicated that students would be able to do a better job by using the resources.

“While I think most students are capable of completing a research project without school or library resources, I don’t think the quality of said projects are as good as they could be if they don’t use them.”

Participants stated they felt that students were unable to identify appropriate resources without help.

“I don’t think that the resources that they would find would be very credible or vetted, or trustworthy to be honest. I’ve observed that a lot of the kids like to go to the sources that just pop up if they do a Google search […] They don’t know what they’re really looking at when they’re using those sources.”

**IQ3. What are some reasons that you may be reluctant to require students to use library resources in completion of a research project?**

Participants cited a wide range of reasons why they would be reluctant to require students to use library resources. Most common among responses was time constraints, both on the part of the librarian and on the part of the student, with 4 participants identifying these as reasons.

“If I were ever reluctant it might be the time constraints of the project […] There’s an overload I think on the librarian staff and students.”

“They come [to the library] and they push the onus on the librarian. ‘Oh here I am here in your space, your job is to find this for me.’ No, no it’s not.”

“The only thing for me, I mean I want them to use the physical space, I want them to come here and have to be able to do this, the only thing for me would be time […] What am I missing, what other essential skill aren’t I able to teach them by coming in here? I mean that would be the only thing for me, the cost analysis-benefit, coming here vs. teaching them.”

“The logistics of coming here just proves difficult for some kids.”

Other reasons given included unfamiliarity with how to access the resources, and a lack of understanding on the part of the students as to why library resources are important.

“Some of the students get frustrated once they’re in the databases they don’t know how to kind of navigate through using the different sources.”

“The only reason I would be reluctant in requiring students to use library resources as a part of their project is that students will not understand the reason or the value behind doing so.”

The participants teaching in hard science disciplines identified curricular constraints, in addition to not seeing the library resources as particularly valuable.
“It’s not as common in math to have students to research to begin with […] Math courses might tend to be teacher centered because they’re focused on very specific skills, less exploratory and that’s perhaps not good. I mean part of that is constrained by ‘I have to teach a certain set of skills.’”

“It’s not productive, and I think that we’re getting farther and farther away from the library as a physical space for their research.”

**IQ4. What are some reasons that you may be reluctant to require students to consult with a librarian in the completion of a research project?**

Five participants responded that reluctance to require students to meet with a librarian as part of a research project stems from not wanting to overload the librarian.

“Again, very likely if there are time constraints on the part of the librarian that wouldn’t allow them say a full meeting with a full course of say 14 to 16 students.”

“I would love for them to do that, to take the initiative, but the way that the [school library] is run at my school, so we’ve got about 1100 students, I think, and there’s one librarian. So, I know that she’s being spread really think in terms of her responsibilities to meet all the different needs of all the students as well as kind of covering the library itself when students come for study hall, or students just go to kind of hang out.”

“Now I don’t know is that fair to librarian to say, ‘Hey, I’m sending these 11 students to you to work on their primary sources,’ or is that something I should be doing? I’m not sure. I’m unclear where the workload should fall there.”

“They’re just passing the buck, ‘Well let’s just make the librarian do it.’ And here the librarian is usually willing to do it and they’re willing to take advantage of that.”

“But also the stress level and pure like saturation level of kids do I mean…can you imagine, I have 24 kids are doing this. Can you imagine if they’re unleashed on the staff? It’s just too much. That’s unfair, that’s unfair labor practices, and I’ve probably violated some law or something. And it’s just unprofessional of me to do that peer.”

Seven participants identified time constraints, either on the part of the librarian (n=5) or on the part of the student (n=2):

“It goes back to what I said before, they’re just passing the buck, well let’s just make the librarian do it. And here the librarian is usually willing to do it and they’re willing to take advantage of that.”

“I’m reluctant to have kids do library work because it’s time consuming, not so much the interaction with the librarian, but just the finding the books and then actually reading it. Kids are not fast at getting information from a print source.”

**IQ5. What are some obstacles that you think students may face in using the library or librarian as a resource when completing a research project?**

Participants cited a wide range of obstacles that students may face in use the library or librarian as a resource in completing a research project. Intimidation and seeing the library as a place of punishment was a common theme identified by participants, with four participants indicating this as a factor.

“Intimidation, not being something that they’ve ever done before or done in a way that wasn’t up to the standard required of them.”
“[The previous librarian] made this environment like not very friendly for kids. Plus the fact that this place is a place of punishment for them. The way they were treated by the adults who worked in this space was like, ‘That’s not a place I want to go.’”

“Many students are so reliant on popular search engines that they are intimidated to go beyond Google or don’t think to use alternative sources.”

“Some of the kids look at this space as a punishment, because they’re sent here for detention. So, you know, some of the kids, they avoid this at all costs, because of what the implications are of the space, so it just puts a negative connotation of coming here, and it’s not something as seen necessarily as a positive, and as a resource that they should be consistently using.”

Lack of research skills and understanding of the importance of library resources were also identified as reasons by six participants.

“I don’t think they know how to search for information.”

“They don’t know how to do research. I don’t think they have made the step in sophistication to beyond a Google search to using electronic search to examine our collection or find things in interlibrary loan, or access the subscription services at the library has.”

“I need you to actually think. ‘What’s the value of that? Why? Aren’t there e-books? What’s the point of this computer? We’re in 21st century, look at all this technology. What do we need that for? Reference book? Can’t I get a reference book online?’”

IQ6. What role do you see the librarian playing in the completion of research projects?

Participants identified a few common themes when asked what role the librarian plays in the completion of research projects. All participants saw the librarians as helpful in assisting students conceptually with topic selection and source evaluation.

“The librarian could help them craft a driving question for their project.”

“Just for them to be there and to offer help. To pick the topic.”

“In the middle when the kids are supposed to be evaluating the sources I’d like to see there to be a little bit more interaction like hey what do you think of this source, or like, you know I’d like that to happen.”

“The librarian should be able to filter out bad information, or should be able to help the students be able to do that.”

“I also see the librarian as sort of helping the teacher how to do research so that skill can be passed on to the students.”

Four participants saw the librarian as assisting with logistics of information retrieval and citations.

“The librarian could help them with their bibliography when they’re done.”

“The really sort of the first voice in explaining how the process to acquire the data that they are looking for.”

“So helping access and citations I see as the main function of the librarian.”

Two participants saw the librarian as a co-teacher, responsible for assisting in all steps of the project.

“I would hope that the librarian would act as a co-teacher in assisting students.”
“As far as a project goes, I feel like I could hand it over to the librarians and they could facilitate the entire thing. I would love to just partner with the librarian and almost like step back, and be just like an additional adult.”

**Discussion**

Survey responses indicate that teachers do consider the library and librarian when conceptualizing research projects. Mean responses to SQ1 and SQ2 (5.68 and 4.58, respectively) indicate that teachers are more likely than not to expect their students to use library resources and consult with a librarian. This result is supported by interview responses, where respondents indicate they do not feel like students are able to conduct research unassisted. Lower mean responses to SQ3 and SQ4 (5.48 and 3.51, respectively) can be explained by themes identified in IQ3 and IQ4, where respondents indicate reluctance to require students to use the library or meet with a librarian due mainly to time constraints.

Mean responses to SQ5 and SQ6 (5.82 and 5.68, respectively) suggest that teachers view the library and librarian as useful. This claim is supported by responses to IQ6, where every respondent replied positively that librarians are useful in helping students complete research projects. Interview responses aligned with Monteil-Overall’s TLC model, where participants identify successive levels of collaboration between teachers and librarians as progressively beneficial.

Themes identified during the interview regarding reasons why teachers may be reluctant to require students to use the library are illuminating. Particularly troubling is the idea of the library being a place of punishment as a deterrent for students to be comfortable in the physical space. Also, these responses suggest that library anxiety is observed by teachers, even though they may not understand it as such. Certain personality traits can also act as a deterrent if the librarian does not adopt a welcoming demeanor when interacting with students.

Because no significant differences are observed among teaching disciplines, it is not suggested that different strategies are necessary for librarians to assist students of different disciplines. Similarly, no differing strategies are necessary when assisting students who have teachers of different genders. How long a teacher has been in the profession does not seem to affect how the teacher views student use of the library, suggesting no differing strategies are necessary for librarians when assisting students of teachers with different length of time as a teacher.

**Limitations**

There were limitations for this study. It is always desirable to have a larger sample size. While the number of usable survey responses was large enough to avoid the use of non-parametric tests for analyses, the non-normal distribution of the data required their use regardless. Perhaps a larger sample would produce normally distributed data. The method of grouping teaching disciplines into meta-disciplines is open to debate. In particular, whether to group the disciplines of History and Language into humanities or social science is not clear. Also, some respondents indicated disciplines that were not content-specific academic disciplines, such as Special Education. These disciplines were generally grouped into social science as they tended to focus heavily on social skills and interaction. This grouping should be re-examined and refined for future iterations of the study.

Since only schools of towns with populations of more than 10,000 were invited to participate, results may lack phenomena that are particular to very small school districts. Also, since only Massachusetts schoolteachers were invited to participate, the results may reflect phenomena particular to policies implemented by the Massachusetts Board of Education. Future iterations of this study should seek to expand the demographics of participants to include smaller school districts and districts outside of Massachusetts.
Conclusions and Implications

The lack of significant differences in the attitudes toward student library use among teaching disciplines and between genders suggests that teaching discipline is not a factor in how teachers conceptualize the use of the library when assigning research projects. Similarly, the lack of significant correlation between time teaching and attitudes toward library use suggests a similar conclusion. Librarians should therefore focus on addressing teachers’ reluctance to incorporate the library and librarian into research assignments by other means. This can be addressed by developing systems for scheduling time with a librarian. Further steps to mitigate this reluctance include the judicious use of integrated library instruction in the form of group instruction rather than individual meetings between student and librarian.

Most troubling is the presence of library anxiety as a deterrent in student use of the library. Teachers recognize this, and librarians should collaborate with teachers in finding a solution to the issue. Also, schools still use the library as a place of punishment, adding to the library anxiety experienced by students. Teachers’ awareness of this can be useful to librarians when approaching administrators in hopes of eliminating the library as a punishment space. Collaborative efforts by librarians, teachers, and administrators to present the library in a positive manner would help mitigate this issue, as would excluding the library as a place of punishment.

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**Author Note**

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Appendix A. Survey Instrument

Attitudes Toward the Role of the Library in Student Research

Demographic Information

1. What discipline(s) do you currently teach?
2. How long have you taught at the high school level? Please include time spent teaching at other institutions.
3. What is your gender?
   - Male
   - Female
   - Other
   - Prefer not to say

Research Projects

For the purposes of this study, "research" has been conceptualized to mean any activity that requires a student to acquire information not directly covered in class. A "research project" is research that includes a deliverable (e.g., a paper, poster, report, etc.)

1. Do you assign your students research projects?

   Yes  Skip to question 6.
   No   Stop filling out this form.

Attitudes Toward the Role of the Library and Librarian in Supporting Research Projects

2. When designing a research project assignment, how likely are you to EXPECT students to use the library (including the library's online resources) in completing the project?

   |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
---|---|---|---|---|---|---|---|---|
Not at all likely | Very likely

3. When designing a research project assignment, how likely are you to EXPECT students to consult a librarian in completing the project?

   |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
---|---|---|---|---|---|---|---|---|
Not at all likely | Very likely

4. When designing a research project assignment, how likely are you to REQUIRE students to use the library (including the library's online resources) as a component of the project?

   |   | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
---|---|---|---|---|---|---|---|---|
Not at all likely | Very likely
5. When designing a research project assignment, how likely are you to REQUIRE students to consult a librarian as a component of the project?

1  2  3  4  5  6  7
Not at all likely       Very likely

6. Overall, how useful do you view the library (including the library’s online resources) in helping students complete research projects?

1  2  3  4  5  6  7
Not at all useful       Very useful

7. Overall, how useful do you view the librarian in helping students complete research projects?

1  2  3  4  5  6  7
Not at all useful       Very useful
Appendix B. Interview Instrument

Interview Protocol

Step 1) Consent form is discussed and given to the interviewee
Step 2) Explanation of the interview process
Interviewee will be asked to consider the interviewer as a researcher rather than a librarian.
Step 3) Terms are defined and explained
- “Research” means the process of acquiring information other than that directly given or assigned by the teacher.
- “Research project” means the research resulting in a deliverable that will be graded.
- “Library” includes the physical as well as online resources provided by the school’s library.
- The “librarian” is the person facilitating access to the library resources.
Step 4) Interview begins

Interview Questions

1. When you conceptualize a research project, what specific steps do you envision the student taking in order to begin the project?

2. Do you feel that most students are capable of completing research projects without using the school’s library resources?

3. What are some reasons that you may be reluctant to require students to use library resources in completion of a research project?

4. What are some reasons that you may be reluctant to require students to consult with a librarian in the completion of a research project?

5. What are some obstacles that you think students may face in using the library or librarian as a resource when completing a research project?

6. What role do you see the librarian playing in the completion of research projects?