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THE ROLE OF THE SCHOOL LIBRARY MEDIA SPECIALIST
IN MICHIGAN: STATEWIDE SURVEY OF PRACTICES AND
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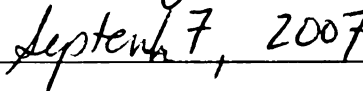
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THE ROLE OF THE SCHOOL LIBRARY MEDIA SPECIALIST IN MICHIGAN:
STATEWIDE SURVEY OF PRACTICES AND PERCEPTIONS

VOLUME I

By

Erik D. Drake

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ABSTRACT

THE ROLE OF THE SCHOOL LIBRARY MEDIA SPECIALIST IN MICHIGAN: STATEWIDE SURVEY OF PRACTICES AND PERCEPTIONS

By

Erik D. Drake

School library media advocates have long struggled to integrate school library media programs into schools' instructional process. The literature suggests that they have been slow to adopt those responsibilities. This study was conducted to determine the extent to which Michigan school library media specialists have implemented the *Information Power* teaching and instructional partnering responsibilities, which variables might predict the implementation of those responsibilities, and which variables might prevent school library media specialists from teaching and partnering more. The results of previous research regarding the extent to which the two responsibilities has been implemented are inconsistent, and no research has been found that studied the ability of variables to predict school library media specialists' teaching and instructional partnering practice.

A mixed-methods approach consisting of a survey and interviews was used to collect the data needed to answer five research questions. The survey consisted of a questionnaire designed following Dillman's Tailored Design Method around the four *Information Power* responsibilities of school library media specialists and participants' demographic information. Response items consisted of specific activities following *Information Power* and Loertscher's school library

media specialist taxonomy. The questionnaire was mailed to a stratified random sample of Michigan schools. Nine participants were selected randomly from the tails and center of the response distribution based on their Rasch-scaled responses. Those participants were interviewed to validate the survey data and to supplement the study with qualitative data.

The Rasch-scaled responses to the survey were analyzed using multiple regression analysis. The data indicated that 69.7 percent of participants reported at least some teaching, and 71.6 percent reported at least some instructional partnering. Variables that predicted the extent of participants' teaching were whether or not participants were certified as school library media specialists, the extent to which they served as program administrator and as instructional partner, and whether or not they held a bachelor's degree in a field other than library and information science or educational media. Participants' preferred level of involvement as information specialist and instructional partner, as well as their actual extent as program administrator and teacher, and certification as school library media specialists predicted increased levels of instructional partnering. Lack of funding for materials and serving as an elementary school library media specialist were associated with lower levels of instructional partnering. The study results support previous research indicating that certification is correlated with more school library media specialist teaching and instructional partnering. None of the other predictors have been studied previously.

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To the school library media specialists of Michigan, who help all of our students develop “information power.”

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CHAPTER 1

PROBLEM AND PURPOSE

In our information-laden society, one's ability to locate and synthesize accurate information is an increasingly valued skill. Today's elementary and secondary students tend to be more comfortable than previous generations at using technology such as the Internet to access information. However, as educators and employers have noted, their proficiency at locating information relevant to a specific need, evaluating that information, and synthesizing multiple sources of information is questionable. School library media specialists refer to these skills as information literacy (American Association of School Librarians & Association for Educational Communications and Technology [AASL & AECT], 1988, 1998).

The school library media profession has adopted as a key responsibility the teaching of information literacy to elementary and secondary students. The current vision of school library media specialist as teacher was formalized in 1988 with the publication of *Information Power*, the national standards for school library media programs, and updated in 1998. The publication of *Information Power* was the culmination of many revisions of standards representing a fifty year struggle to establish instructional standards for school library media specialists. It never has been clear to what extent school library media specialists have adopted an instructional role, nor is it clear what might prevent them from teaching more. As Craver (1986) observed, the literature indicates that it has taken at least ten years after the publication of each set of standards for school

library media specialists to adopt those standards. Since *Information Power* was originally published in 1988, only in the last few years have we been able to observe its influence on practice.

Further, school library media researchers often exclude all but state-certified school library media specialists in public schools from their samples. This makes it difficult to compare studies because the nature of the population studied can be very different based on the professional qualifications of the participants included in the sample. Even more problematic is the lack of knowledge about the nature of the work of school library media personnel in schools without a certified school library media specialist and in non-public schools and public school academies.

In order to better understand how school library media specialists have adopted an instructional role, it is beneficial to examine the history of school library media standards in the context of American education trends over the last 70 years. Although some school libraries were established as early as the 1830s, the school library media specialist as teacher has been discussed in the literature only since the 1930s (Craver, 1986). From the 1930s through the 1950s, school librarians, as they were then called, taught primarily through bibliographic instruction. That is, school librarians assisted students with tasks such as using the card catalog to locate books. Other activities considered as instructional during this time included the supervision of study halls and the management of the library as meeting space. In keeping with the traditional educational philosophy of the era, the majority of the school librarian's time was spent on

traditional library duties such as book circulation, acquisitions, cataloging, shelving and inventory (Mellon & Boyce, 1993).

The period in American education from the 1930s through the 1960s has been characterized as an era of ferment, particularly with respect to curriculum development (Kliebard, 1995; Pinar, 1995). As a new component of American education, school librarianship advanced little during this period (Pender, 1984). In 1953-1954, only 37 percent of American secondary schools received the services of a centralized library (Craver, 1986). The practice of school librarianship remained focused on collections rather than instruction, much the same since the 1920s, when progressive educators began advocating for school libraries (Morrill, 1981).

The launch of Sputnik in 1957 renewed interest in American education, particularly with respect to curriculum development (Kliebard, 1995; Pinar, 1995). New instructional methods focused on "learning rather than teaching, and on curriculum methods that permitted a broader instructional role for the school librarian" (Craver, 1986, p. 183). Continued movement toward learner-centered education, efficiencies realized by the consolidation of school districts, and an influx of federal funding for school libraries increased dramatically the number of school libraries through the 1960s.

The American Association of School Librarians (AASL) became a division of the American Library Association during this time, affording a unified professional voice for school librarians. In 1960, the AASL leadership published a new set of standards for school library media programs (AASL, 1960). The

standards were written with the cooperation of 19 other professional organizations, including counselors, administrators, school board members, public librarians and science teachers (Knuth, 1994).

The 1960 standards were much different than the previous standards, published in 1920 (NEA, 1920) (popularly known as the Certain Standards) and 1945 (ALA & AASL, 1945). Earlier standards had focused primarily on collections, facilities and staffing with little or no emphasis on instruction. The 1960 standards emphasized the use of a variety of instructional tools, including audiovisual media. Phrases such as “materials specialist” and “instructional materials center” were introduced, but never replaced the traditional terms, “librarian” and “library.” The standards stressed the school librarian’s role as teacher of information skills (Mellon & Boyce, 1993). The school librarian’s instructional role in 1960 was still not considered widely, however, as being integrated into the curricular content of the school.

According to Knuth (1994), the 1960 standards were “highly acclaimed” (p. 139), and the timing of publication as well as buy-in from diverse educational groups immediately funneled millions of federal and private grant dollars into school libraries across the United States. Mellon and Boyce (1993), however, indicate that the standards were such a “radical change from the 1945 standards that there was considerable resistance to them on many levels” (p. 132). Most likely, the response from educators, including school librarians, was mixed, with powerful representation both in support of and in opposition to the standards, as well as an indifferent middle group. These divisions provide an explanation for

Craver's (1986) finding that the practice of school librarianship changed little following the publication of the 1960 standards. Mellon and Boyce (1993) note that the 1960 standards created much "confusion and division" (p. 132) among school librarians continuing to focus on books, as well as librarians and other educators whose emphasis was on audiovisual materials. It became clear that the standards needed revision.

In 1969, AASL teamed with the Department of Audio-Visual Instruction (DAVI) of the National Education Association (NEA) to write new standards for school libraries (AASL & DAVI, 1969). The 1969 standards eliminated all variations of the word "library" in favor of the phrases, "media center," "media program," and "media specialist." The standards placed a new emphasis on the integration of materials in all formats into media center collections, as well as on achieving standards of quality for media programs. For the first time, the standards called on media specialists to "instruct children and teachers in the use and integration of media into learning" (Knuth, 1994, p. 140). This new instructional role paralleled changes in education to reflect an emphasis on individual learning needs, varied instructional techniques and materials, and school libraries serving "as rallying points and learning laboratories" (Knuth, 1994, p. 140). Craver (1986) notes that, by this time, teachers, administrators, students, and, for the most part, parents embraced the concept of an integrated instructional media center, but still struggled to accept an integrated instructional role for the media specialist.

Changes in curriculum and instruction occurred so rapidly during the early 1970s that AASL and the Association for Educational Communications and Technology (AECT), which had been created from DAVI, teamed again to create a new set of standards (AASL & AECT, 1975). Mellon and Boyce (1993) note that the role of AECT in the development of the standards is clear. The new standards emphasized

instructional technology, instructional design, and systems thinking.

Although these new standards have been criticized for over-estimating the knowledge of the media specialists, being jargon-laden and out of touch with humanistic concerns, and alienating many practicing media specialists, they nevertheless served to push media centers into progress and expansion. (p. 140)

The 1975 standards advanced the concept of the media specialist as an integrated member of the instructional team with a responsibility to assist teachers with creating instructional units. Further, for the first time, emphasis was placed on student and teacher users of media programs, rather than on collections, facilities, and staffing (Knuth, 1994; Mellon & Boyce, 1993). Finally, the 1975 standards advanced the idea of building-level media programs as part of a district-level system. This concept increased the number of district-level media supervisors (Mellon & Boyce, 1993).

Driven mainly by advances in technology, the increasing professionalism of school library media specialists, and continuing changes in instructional theory and practice, AASL and AECT published new guidelines in 1988. Called

Information Power (AASL & AECT, 1988), the document was referred to as “guidelines” rather than “standards” because of their qualitative nature. That is, the guidelines offered descriptions of what a school library media program should look like, outlined the roles of school library media specialists, and offered standards of student learning. All previous standards had been predominantly quantitative, focusing on issues such as collection size, facility size, expenditures per student, and number of staff members. *Information Power* reflected the change in terminology that AASL had instituted nearly a decade earlier. The word “library” was added to “media,” so “media specialists” became “library media specialists,” “media centers” became “library media centers,” and “media programs” became “library media programs.” This language remains the official designation to this day, although in many areas, the word “library” is rarely used. For definitions of these terms, see Appendix A.

Information Power defined three roles that library media specialists must play if the library media program is to be integrated in the school environment: (a) *information specialist*, (b) *teacher*, and (c) *instructional consultant*. The *information specialist* role corresponds with the traditional school librarian role, and includes activities such as circulation, collection development, acquisitions, cataloging and inventory. As Mellon and Boyce (1993) observed, “It is the information specialist role that links school librarianship with every other branch of the profession [of librarianship]” (p. 134).

The *teaching* role involves instructional interaction, primarily with students, although all members of the school community are envisioned as students in this

context. *Information Power* envisions library media specialist instruction that is fully integrated into the curriculum rather than focusing on traditional bibliographic instruction isolated from content areas. Students use the library media center individually or as part of a class, as determined by the need of students and teachers at a given time. Instruction may be brief and individual or it may take the form of a more traditional classroom-style lesson. While the school library media specialist remains responsible for bibliographic instruction, such as teaching the use of the library catalog, such instruction is conducted as part of a content-area lesson or unit.

Further, the rapid addition of technology to school library media centers increased the scope and complexity of school library media specialists' teaching. Card catalogs became online catalogs. By the 1995-96 school year, 60 percent of American schools used an online catalog, up from almost zero a decade earlier (Miller & Shontz, 1997). Print periodical indexes were slowly replaced with electronic databases. The school library media specialist as teacher was responsible for teaching students and teachers how to use changing and expanding collections of materials. The increasing use of electronic resources also required school library media specialists to teach students and teachers how to locate and evaluate information, use it ethically and responsibly, and synthesize it in ways that were not as necessary when a school library collection consisted of a discrete collection of carefully selected books.

The *instructional consultant* role, while not new in concept, was first defined clearly and specifically in the 1988 edition of *Information Power*. The

school library media specialist as instructional consultant collaborates with teachers to design curriculum and instruction that integrates curriculum content with information skills. The classroom teacher brings the curriculum content to the table, the school library media specialist brings the information skills standards, and the team plans as needed. Responsibilities are divided between the classroom teacher and school library media specialist, and each is involved as appropriate with the instructional process from design through evaluation.

A revised edition of *Information Power* was published in 1998 (AASL & AECT). It renamed *instructional consultant* as *instructional partner* in an attempt to convey the equality of the relationship between the classroom teacher and the school library media specialist. The use of the word “consultant” implied an imbalance of power between the library media specialist and the classroom teacher, with the library media specialist in a more powerful role. Despite the change in language, the definition of instructional partner remained largely unchanged from the 1988 definition of instructional consultant.

After the publication of the 1988 edition of *Information Power*, it became clear that a large portion of school library media specialists' work did not fall into any of the three roles described in the 1988 edition. Administrative tasks such as supervision of staff, budgeting, and serving on building and district committees are crucial to the work of school library media specialists, but were not part of the three roles. Therefore, the editors of the 1998 edition added a fourth responsibility: *program administrator*.

In addition to the creation of the program administrator responsibility, another key change in the 1998 edition of *Information Power* was that the three “roles” (*information specialist, teacher, and instructional consultant*) became the four “responsibilities.” (*information specialist, teacher, instructional partner, and program administrator*). The editors of the 1998 edition made the change in an effort to increase the instructional relevance of library media specialists in their schools. The change in language was made to add a sense of moral imperative to the work of school library media specialists in an effort to persuade members of the profession that it was their duty to serve in all four responsibilities. In addition, the new language was intended to convey to school administrators and education policymakers the necessity of a certified school library media specialist in every school building. Finally, the 1998 edition of *Information Power* excluded all quantitative standards and became entirely qualitative guidelines.

In the nearly twenty years since the publication of the 1988 edition of *Information Power*, a myriad of papers have been published calling for school library media specialists to focus their work on the teaching and instructional partnering responsibilities. Neuman (2003), Craver (1986), Drake (2006) and others have characterized much of this body of literature as proselytizing. Based on number, frequency and the often emotionally charged nature of these papers, it is clear that a central problem for the leadership of the library media community is the desire to further the adoption of the teaching and instructional partnering responsibilities by school library media specialists. However, empirical evidence

about the actual work of library media specialists is lacking to know whether such persuasion is effective or necessary.

Clearly, one of the challenges for school library media specialists over the last twenty years has been the increasing scope of their work. That is, the amount of information available increases exponentially, and new information formats become available frequently. Where are the boundaries for the work of library media specialists? *Information Power* did not explicitly define those boundaries. However, the discussion of information resources and the responsibilities of school library media specialists did provide a general scope of school library media specialists' work. First, classroom teachers are responsible for delivering the curriculum content. Second, library media specialists partner with teachers to provide information resources that deliver the curriculum content as well as the instruction required for students and teachers to be able to access, evaluate, and use the information contained in the information resources as one way to learn the curriculum content.

In the context of this division of work, the term "information," which appears to be replacing the word "media," is broadly defined and could, theoretically be any information that meets a student's or teacher's learning need. It is clear that the format of the information resource is nearly irrelevant, whether it is a book, web site, software program, or blog. Since one of the responsibilities of the school library media specialist is to collect, organize and provide access to information resources, issues such as access, relevance and cognitive authority remain essential to school library media specialists, even as

the delivery method changes frequently and dramatically. In a digital environment, the concept of collection has changed from a physical repository to a virtual one.

The changing responsibilities for school library media specialists over the past 70 years have not gone without criticism. As Mellon and Boyce (1993) noted, many school library media specialists resisted the 1975 standards, primarily because practitioners were not prepared to deal with the significant changes in philosophy and practice called for by those standards. Further, each new set of standards called for ever more integration of the school library media program with the rest of the school community. The complexity of partnering with teachers makes that responsibility alone a daunting task for many school library media specialists. Opportunities to partner are severely limited in many schools by lack of time, professional development, the structure of the school day, and a variety of other factors. Brickwell (1970) wrote that the school library media specialists' expectations of their teaching and consulting roles were unrealistic given the complex nature of American schools. In 1974, Miller described school library media specialists' instructional goals as "curriculum delusions" (Thomason, 1981). Wilson (1979) posited that librarians will never be regarded as teachers because their work is different than that of teachers, and that the idea of librarian as teacher is an "organizational fiction."

Even after more than 70 years of attempting to persuade school library media specialists, educational leaders and teachers that teaching and partnering are the key responsibilities of school library media specialists, and nearly 20

years after the publication of standards for this role, anecdotal evidence suggests that the school library media specialist profession is still struggling to meet these goals. Very few studies have attempted to evaluate empirically the overall progress that school library media specialists have made in implementing the teaching and instructional partnering responsibilities. Of the few studies on this topic that have been conducted, most sampled relatively small geographic areas. A number of studies have studied the responsibility of the school library media specialist, but have tended to be case studies about school library media specialists who were known to have aligned their practice with *Information Power* or who have been part of an intervention to help implement the *Information Power* responsibilities.

The lack of research on the teaching and partnering responsibilities of school library media specialists leaves many questions unanswered. To what extent do school library media specialists teach and partner? Do they believe these responsibilities are important? What are the roles of teachers, administrators and students? Is it reasonable to expect school library media specialists and teachers to add new responsibilities while they struggle to meet a myriad of other requirements? What is the impact on student learning? While all of these questions have been asked repeatedly in the school library media literature, few definitive answers exist.

The most fundamental concept, it seems, is to understand the extent to which school library media specialists are already acting as teachers and instructional partners. This data is crucial to determine the amount and type of

resources necessary to assist school library media specialists in implementing the teaching and partnering responsibilities, as well as the amount of progress made in implementing *Information Power*. Further, how do we know where to direct those resources? One logical answer is to study library media specialists themselves. It seems likely that characteristics of school library media specialists themselves influence their capacity to teach and partner. Determining exactly what those characteristics are will help target resources where they are needed to assist school library media specialists.

The purpose of this study, then, is to understand to what extent school library media specialists, regardless of professional qualification or type of school, have adopted the teaching and instructional partnering responsibilities and what barriers might prevent those who have not from serving in those responsibilities. The study further seeks to understand what, if any, factors are predictive of the extent to which school library media specialists have implemented their teaching and instructional partnering responsibilities.

It is important to understand these issues because the profession has invested significant resources in increasing the instructional role of school library media specialists, and the literature is inconsistent in its explanation of the extent to which school library media specialists have adopted the *Information Power* teaching and instructional partnering responsibilities. Further, nearly all prior research has been limited to specific states or smaller geographic regions due to the lack of a suitable national sampling frame. It is necessary to conduct research in other states as a way to support or refute prior research, as well as to

continue to gather evidence of any national trends. In addition, most prior studies have excluded non-certified library media specialists and those from non-public schools and public school academies from their samples. This practice limits the generalizability of much previous research to a relatively small portion of the population of school library media specialists, leaving generally unknown the work that affects the teaching and learning of a large percentage of students.

The most common method for collecting this data is survey, which is appropriate to understanding these issues. However, the questionnaires used often ask participants about their teaching and instructional partnering in broad, theoretical questions that tend to lead participants to the “right” answer. Further, the statistical methods used to interpret that data seldom advance beyond correlational work. Methods such as multiple regression might provide more data about the relationships between variables to help advance our understanding of the teaching and instructional partnering responsibilities of school library media specialists.

This study was designed to address all of the current deficiencies in the literature just described. First, while this study did not include a sample larger than a state, no previous research on the practice of school library media specialists has been conducted in Michigan, so this study adds a new state’s data to the literature. A previous study has shown that several variables related to Michigan school library media programs significantly predict increased student test scores, but that study did not examine the teaching and instructional partnering of school library media specialists. Second, no portion of the

population of school library media specialists in Michigan was excluded from the sample, so data was available to compare certified and non-certified school library media specialists. While the number of non-public school and public school academy library media specialists was too small to compare their activities with those of public school library media specialists, the study did provide previously unknown data about their proportional representation in the population to ensure that they are appropriately represented in future studies. Third, the questionnaire was designed with items that represent specific activities intended to measure the actual work of school library media specialists rather than a theoretical representation of the teaching and instructional partnering responsibilities. Finally, multiple regression analysis using Rasch scaling was used to analyze the questionnaire data, resulting in a more sophisticated understanding of the relationships between variables not found in previous research.

With the purpose of the study established, I developed five research questions to guide the design and analysis of the study. The research questions address several key theoretical gaps in the literature regarding the teaching and instructional partnering practice of school library media specialists, and the study design that follows addresses the methodological deficiencies of prior research. The research questions are presented next, followed by an overview of the study organization.

Research Questions

In order to develop strategies to help school library media specialists implement the teaching and instructional partnering responsibilities, this study seeks to answer the following research questions:

1. To what extent have school library media specialists implemented the teaching and instructional partnering responsibilities, as described in *Information Power*?
2. Which school library media specialists' perceptions about their teaching and instructional partnering responsibilities are predictive of the degree to which they have implemented those responsibilities?
3. Which personal and professional characteristics of school library media specialists are predictive of the extent to which they have implemented the teaching and instructional partnering responsibilities?
4. What characteristics of school and community are predictive of the extent to which school library media specialists have implemented the teaching and instructional partnering responsibilities?
5. What factors do school library media specialists perceive as preventing them from implementing the teaching and instructional partnering responsibilities?

Organization of Study

The remainder of this dissertation presents the results of a study intended to answer the research questions listed above. Chapter 2 will examine the

literature of school library media studies, particularly as it relates to the teaching and instructional partnering responsibilities. Chapter 3 describes the mixed methods approach used in the study. Chapter 4 presents the findings of the study, and Chapter 5 discusses the findings and provides implications for future research. Several appendices provide additional detail about the instrumentation, sampling procedure, and data. I hope that other researchers will use this information to conduct further research to better understand the teaching and instructional partnering responsibilities of school library media specialists.

CHAPTER 2

REVIEW OF THE LITERATURE

In order to design a study that examines the characteristics of school library media specialists and their impact on teaching and consulting, it is necessary to evaluate the existing literature on the subject. The body of literature on school library media services in general is large. The majority of school library media literature is descriptive of existing practice or prescriptive of what school library media specialists “should be doing”, with the purpose of communicating best practices. For much of the 1990s, a large portion of the prescriptive literature implored school library media specialists to teach and partner.

Since the 1990s, school library media research has become fragmented. Researchers are producing a small amount of literature that covers a broad range of issues in school library media studies, including the changing role of the school library media specialist, the use of information resources in teaching, bibliometrics, and the impact of the school library media program on student learning. School library media research is helping to advance the field, but in an incoherent manner. As a result, research that informs us about the teaching and partnering responsibilities tends to be somewhat old, and is often the result of research that was conducted for other purposes, but incidentally addresses teaching or partnering.

Because school library media research exists at the intersection of the fields of education and library and information studies, the scope of research is broad. Some research is distinctly grounded in library and information studies

theory. This literature is typically associated with the information specialist and program administrator responsibilities of school library media specialists and seldom discusses the teaching and consulting responsibilities. Therefore, such literature will not be reviewed here.

The first section of this literature review analyzes literature whose scope is broader than teaching and instructional partnering, but situates teaching and partnering in the context of the school and the school library media program. The second section reviews studies related specifically to teaching and instructional partnering. The third section reviews research related to very specific aspects of the teaching and partnering responsibilities. Finally, the last section summarizes the literature with respect to the five research questions presented in Chapter 1.

Part 1: Literature that Situates Teaching and Instructional Partnering in the School Context

Several authors have researched and written about topics that support the concept of school library media specialist as teacher and instructional partner, as well as situate those roles within the context of the school and school library media program. Three of those authors are Lance, Loertscher, and Kuhlthau. Lance is known for conducting research that correlated various measures of school library media program excellence with student standardized test scores. His work was intended for a wide audience, including library media practitioners, library media educators, library administrators and policy makers. School library

media advocates often use the results of the research to claim that school library media programs cause an increase in student test scores, a claim that cannot be substantiated given Lance's methods. This issue is discussed below in the review of Lance's research.

Loertscher's taxonomies of school library media programs documented the range of activities that occur with respect to various aspects of school library media programs, including the role of the library media specialist in the school. Loertscher's work targeted school library media specialists with the intention of helping them improve their practice.

Kuhlthau's key contribution to the literature was a model of the information search process. Her research indicated that the model is valid for users of varying ages, educational backgrounds, and in a variety of research contexts. Kuhlthau's work indicated that, at various points in the search process, the searcher experienced frustration. The intervention of a librarian was very often helpful to the researcher in moving through that phase of the process. Like Loertscher, Kuhlthau's primary audience was school library media specialists, although, increasingly, educators of school library media specialists are using her work to prepare school library media specialists for the teaching and instructional partnering aspects of their work.

School library media researchers generally have moved away from studying cognitive aspects of library media services characterized by Kuhlthau and others. The current trend in school library media research is to attempt to establish a relationship between school library media programs and student

achievement. The impetus for this research was the release of information that a proprietary study indicated a statistically significant correlation between school library media expenditures and test scores on the National Merit Scholarship Test (ALA, 1987; Lynch & Weeks, 1988). Because of the proprietary nature of the study, documentation of the data and methods was not available to school library media researchers.

The Colorado Library Research Service commissioned a study, directed by its director, Keith Curry Lance, to determine whether the results of the 1987 proprietary study could be reproduced. This study later came to be known as the first Colorado study. Lance, Welborn, Hamilton-Pennell, and Rodney (1993) included in their sample all 221 Colorado schools that had a school library media center, according to a 1989 survey of Colorado schools, and that used the Iowa Tests of Basic Skills or Tests of Achievement and Proficiency. While the authors were concerned about the generalizability of the study's findings because they used a nonrandom sample, their analysis of the distribution in the sample of variables such as grade level, enrollment and district settings showed no significant differences between the sample and the population of schools in Colorado and the United States (Lance, 1994).

The study did not collect new data, but relied on existing demographic information, characteristics of community and school, characteristics of library media centers and student achievement test scores. The researchers sought to identify the relationships between these variables and student achievement on Iowa test scores. They used a multilayered correlation, factor analysis and

multiple regression analysis to identify relationships between variables. First, redundant variables were removed from the study through correlation and factor analysis. Second, related sets of variables were submitted to factor analysis and used to generate scores that were used to represent groups of related variables. The result of the initial analysis was the reduction of many independent variables to nine, and the dependent variable, student achievement, was operationalized by students' Iowa reading scores (Lance, 1994).

In the Lance study, each of the nine independent variables was analyzed in relation to students' reading test scores in each of the five grade levels that were tested. Using multiple regression analysis, Lance found that reading scores were predicted significantly by two variables: students' at-risk factor, and the library media center size factor. The at-risk factor variable was a composite score including percentage of minority students, percentage of free lunch students, and percentage of adults in the community who had graduated from high school. The library media center size factor variable included total staff hours in a typical week and per-pupil holdings of books, periodicals and videos. These two variables accounted for more than 50 percent of the variance in test scores at each of the five grade levels included in the study.

Analysis of the two direct predictors and the indirect effects of other potential predictors indicated that the size of the school library media program, including the size of the staff and the size of the collection were the "best school predictors of academic achievement" (Lance, 1994). The instructional role of the school library media specialist influenced the collection, which in turn influenced

academic achievement. None of the other independent variables in the study were found to have a significant influence on student achievement, including school variables, the library media specialist role factor, the library media center use factor, the library media center computing factor, and library media center expenditures per pupil (Lance, 1994).

Lance acknowledged that future research should strive to use larger, random samples, and that the use of the sample in the first Colorado study makes generalizability questionable. He also encouraged future researchers to include variables that were not available in this study due to the nature of the data collection. Finally, Lance noted that standardized tests might not be the best way to measure student achievement (Lance, 1994). Although Lance did not propose alternate methods of measurement, possibilities might include portfolios or rubrics measuring the quality of student products of learning, such as papers, multimedia presentations, videos or web sites. Clearly, these measurements present many additional challenges to researchers, but they should be considered for use in further research.

Lance did not mention the danger of using multiple regression analysis to draw cause-and-effect conclusions, and the first Colorado study has been widely cited by school library media advocates as evidence that school library media centers cause students' test scores to increase. The correlation, factor analysis and multiple regression methods used in the study are inadequate to conclude that school library media programs cause higher student achievement because they cannot completely account for confounding variables that might be the

actual cause of correlation between variables. Given their statistical methods, Lance and colleagues did analyze adequately some of the likely confounding variables that could be the actual cause of increased test scores, such as socioeconomic status, household size and rurality. As Lance (1994) noted, replication of the study in other geographic areas would help provide evidence of a possible causal relationship between school library media programs and student achievement. Alternatively, a national quasi-experimental study controlling for variables such as socioeconomic status could be conducted if a suitable national sampling frame could be developed. To date, no researcher appears to have solved this problem.

Lance, Rodney, and Hamilton-Pennell (2000a) conducted a follow-up study, now known as the second Colorado study. The methods were similar to the first Colorado study. In the second study, student achievement was operationalized by scores on the Colorado Student Assessment Program (CSAP). However, only fourth- and seventh-graders participate in the CSAP, so the sampling frame consisted of all elementary and middle schools in Colorado, and, therefore, the sample excluded high schools. The second Colorado study included the same independent variables as the first study, and added some new ones that had been absent in the first study, such as the types of leadership activities carried out by school library media specialists, the number of networked computers available, the number of licensed database computers available, and the number of computers with Internet access, and whether the library media center is flexibly scheduled (Lance, Rodney et al., 2000a).

The results affirmed the statistically significant findings of the first Colorado study. With the larger sample, a number of additional significant predictors were found to predict higher student test scores. Increases in library development, including library media staffing ratios, ratio of materials to students, and library media expenditures significantly predicted an increase in CSAP test scores at both the fourth and seventh grade levels. Further, the number of hours weekly that school library media specialists spent collaborating with teachers significantly predicted increased test scores at both fourth and seventh grade. Greater availability of technology, including networked and licensed database computers, and Internet-accessible computers significantly predicted increased test scores for fourth and seventh graders. Finally, flexibly scheduled library media centers significantly predicted increased test scores for seventh graders only. As in the first Colorado study, the regression model was significant regardless of school or community characteristics such as socioeconomic status, family size, rurality, teacher-pupil ratios, or school expenditures (Lance, Rodney et al., 2000a).

Lance et al (2000a) improved upon the sampling method of the first Colorado study because they randomly sampled all Colorado elementary and middle schools. However, the exclusion of high schools limited the generalizability of the study to Colorado elementary and middle schools. In addition, the researchers substituted one standardized test for another, still not addressing the concern that Lance (1994) raised about how accurately standardized tests measure student learning. Finally, the authors' use of the

same statistical methods as the first Colorado study did nothing to address the need discussed above with respect to the first Colorado study for research that demonstrates whether school library media programs caused increased student achievement.

Lance and various coauthors have continued this research program through several states. The statistical methods were similar in each state. There were differences in sampling methods and data collection for the independent variables. In all cases, student achievement, the dependent variable, was operationalized by scores on state standardized tests. In Michigan, for example, Michigan Educational Assessment Program (MEAP) reading scores were used as the dependent variable. At the time of the study, MEAP reading was assessed at fourth, seventh and eleventh grades. As a result, more than 3,000 Michigan schools that included those grade levels were included in the sampling frame. The sampling procedure was not described in the paper, so it was not clear whether the sample was random or how schools were selected for participation in the study. The sample represented 14.9 percent of Michigan schools including fourth grade, 26.2 percent of Michigan schools including seventh grade, and 38.1 percent of Michigan schools including eleventh grade (Rodney, Lance, & Hamilton-Pennell, 2003).

The researchers surveyed the schools in the sample about their school library media programs, and then used correlation, multiple regression, and t-tests to analyze the characteristics of the school library media programs with data provided by the Michigan Department of Education (MDE) for each school in

the sample. The MDE data included demographic data about each school and its community, as well as the average MEAP reading scores for the school. The results of the Michigan study were consistent with those of both Colorado studies, although the Michigan study identified many more direct and indirect predictors of test scores. For example, the number of library media staff, the number of hours per week the school library media center is open, and the number of hours per week of instructional partnering and teaching performed by the school library media specialist, in addition to several other variables, significantly predicted fourth grade MEAP reading scores. Similar results were found for seventh and eleventh grade MEAP reading scores, although the instructional partnering and teaching of school library media specialists did not significantly predict eleventh grade MEAP reading scores (Rodney et al., 2003).

In addition to the unclear sampling method, the Michigan study continued the practice of using standardized test scores to operationalize student achievement. The causal relationship between school library media programs and student achievement that school library media advocates so desire to find was not adequately supported by the research methods. Lance and various coauthors have conducted studies like the Colorado and Michigan studies in 15 other states, with similar methods and similar results to those of Colorado and Michigan. While the evidence connecting features of school library media programs with student achievement is mounting, Lance and colleagues have made little progress toward addressing the methodological deficiencies that have persisted since the first Colorado study was conducted.

The research program headed by Lance is not unlike process-product research in teaching. Process-product research, popular in the 1970s, studied the relationships between the teacher's activities and measurable student learning, generally operationalized as standardized test scores, in an effort to understand how changing teacher behavior might improve student learning.

Both process-product research and Lance's work focus on studying concrete, measurable and observable independent variables in an effort to determine which of the independent variables affect student achievement. In process-product research, the independent variables were concrete, measurable tasks such as amount of seat time or the number of times that a teacher exhibited a specific behavior. The dependent variable was almost always a standardized test score. Process-product researchers specifically excluded all cognitive and affective aspects of teaching from their research, including students' and teachers' thoughts and feelings, saying they could not be measured empirically. This area considered thought to be off limits to empirical researchers has been called the "black box" (Gage & American Educational Research Association, 1963). This is not to discount the contributions that process-product research made to our understanding of teaching, but it is important to understand what it did not tell us.

Like process-product researchers, Lance's studies used independent variables that could be directly measured, such as number of library media staff, number of volumes in a library media center collection, and school expenditures on library media programs. Also like process-product researchers, Lance used

standardized tests to measure student achievement. Lance's "black box" included the cognitive and affective aspects of school library media specialists, teachers, administrators and students for which his research did not consider. Like process-product research, Lance's research is an important contribution, but it excludes some variables that may be very important. Lance's research suggested several variables that may have influenced school library media specialists' teaching and partnering practice, including whether the library media specialist was state-certified. However, it offered no evidence of how school library media specialists' own perceptions of the teaching and partnering responsibilities affected their practice. Very few studies have been conducted to help answer these questions. Those that have are discussed in Part 2 of this literature review.

Prior to the advent of Lance's research program, school library media researchers' primary focus was the library research process as constructivist learning. This cognitive approach to understanding school library media services marked a dramatic shift from prior school library media research, which had been grounded solidly in library science theory. As such, school library media research traditionally focused on issues such as collections, cataloging, resources and other related topics. The transition to a cognitive understanding of school library media services was the manifestation of the new "user-centered" approach to understanding library services in general, as well as the parallel "student-centered" movement in education.

Interestingly, the transition from cognitive research to Lance's work is the opposite of the decline of process-product research in teaching. In research about teaching, process-product gave way to the cognitive research intended to help shine some light in the "black box". That is, researchers began to find ways to study the variables that had previously been considered unable to be studied empirically, including cognitive and affective aspects of teachers and students. The fact school library media research has moved in the opposite direction is one indication of the lack of an organized, logical progression of research in the field which has resulted in gaps in fundamental understandings of school library media practice.

Two researchers instrumental in the cognitive domain of school library media research are Loertscher and Kuhlthau. Both have been widely cited by researchers interested in the teaching and partnering responsibilities of school library media specialists. Loertscher's (2000) school library media specialist taxonomy is the basis for many of the instruments used in studies cited in Part 2 of this literature review, as well as the instrument used in this study. His work leading up to the publication of the taxonomy was instrumental in the development of the *Information Power* guidelines for the teaching and partnering responsibilities of school library media specialists (AASL & AECT, 1988; 1998).

Loertscher's (2000) taxonomy of school library media specialists' work was a key theoretical perspective regarding the teaching and partnering responsibilities of school library media specialists. The taxonomy demonstrates the continuum of levels at which school library media specialists interact with

students and teachers. At the highest level of the taxonomy, Level 10, the school library media specialist “contributes to the planning and organization of what will actually be taught in the school or district” (p. 22). At the opposite end of the continuum, the school library media specialist has no involvement in the teaching and learning process (Loertscher, 2000). Presumably school library media specialists at this end of the continuum spend all or almost all of their time on the traditional responsibilities of information specialist and program administrator.

Clearly, school library media specialist-teacher collaboration is a labor-intensive, time-consuming process. Loertscher (2000) makes clear that he does not expect all instruction to occur at the fully integrated end of the continuum. The intention of Loertscher and other proponents of the *Information Power* model is to ensure that all students are exposed to integrated, information-based instruction systematically at all grade levels. Further, Loertscher recognizes that a school library media specialist's teaching and instructional partnering may fall at various points on the continuum over time as dictated by the needs of the library media specialist, students, teachers and other stakeholder groups at any given time.

While Loertscher was shaping the instructional role of school library media specialists by prescribing their responsibilities, Kuhlthau was conducting an extensive research program about the library research process as learning. Kuhlthau is the dominant and most prolific researcher in this area. In over 50 publications over more than 25 years, Kuhlthau has enriched our understanding of the instructional role of the school library media specialist by studying the

processes that students undergo as they seek to construct meaning from information resources. One of the results of her research has been a greater understanding of both the teaching and instructional partnering responsibilities of school library media specialists and how they impact student learning.

Kuhlthau (1985) studied the research process of high school students using a variety of methods to collect data, including “questionnaires, interviews, journals, timelines and flow charts” (Kuhlthau, 1985, p. 35). She found that students often felt that they needed more guidance throughout the research experience, from topic selection through evaluation of the product. Her research indicated that students went through a predictable succession of feelings as they conduct research, and that process is consistent with Kelly’s theory of personal constructs (Kelly, 1963). That is, students initiated the research process with a feeling of doubt as to whether they had the capacity to carry out the project. As more information was encountered, the student became more anxious. The student either abandoned the new idea or formed a hypothesis and moved on. The hypothesis was tested, the results assessed, the new information was accepted or rejected, and a new construct was formed or an existing one verified (Kuhlthau, 1985).

Kuhlthau used her discovery that the information search process was consistent with Kelly’s theory of personal constructs to develop a six-stage model of the information search process (see Figure 1). Stage 1, Initiating a Research Assignment, was characterized by uncertainty or apprehension at the task ahead. Stage 2, Selecting a Topic, was marked by a brief sense of optimism as

	Receive	Select	Explore for	Form	Collect	Prepare to
Stages	Assignment	Topic	Focus	Focus	Information	Present
Feelings	Uncertainty	Optimism	Confusion/ Frustration/ Doubt	Clarity	Sense of Direction/ Confidence	Relief/ Satisfaction or Dissatisfaction
Thoughts		Ambiguity	-----	-----	>	Specificity
			Increased	Interest	-----	>
Actions		Seeking			Seeking	
		relevant	-----	-----	>	pertinent
		information			information	

Figure 1. Kuhlthau's Model of the Information Search Process. From "A Process Approach to Library Skills Instruction," by C. C. Kuhlthau, 1985, *School Library Media Quarterly*, 13(1), p. 36.

students felt that they had completed an important step in the process. Stage 3, Exploring Information, frequently resulted in confusion or frustration as students encountered conflicting or inconsistent information about their topic or they may have found little or no information at all. In Stage 4, Forming a Focus, students narrowed their topic, and, if appropriate to the task, developed a working thesis to help focus information gathering. At Stage 5, Collecting Information, the student developed a sense of confidence as he or she collected information to support the focus, which might be a thesis statement. The final Stage, 6, Preparing to Present, involved concluding research and organizing and

synthesizing information as necessary for the final product. This stage was marked by relief (Kuhlthau, 1985).

Kuhlthau's research indicated that students also demonstrated increased interest in their topic, particularly as they moved from focus formulation to information collection. As she noted later, however, this was dependent upon the amount of choice that the students had with the assignment, in particular with respect to important tasks such as topic selection, focus formulation, and choice of resources. More choice frequently generated more interest. Less choice often resulted in less interest. The role of student choice in learning is seldom discussed in school library media literature, and Kuhlthau's contribution in this area is key. Students' actions shift from seeking relevant information at the beginning of the information search process to seeking pertinent information toward the end (Kuhlthau, 1985). Kuhlthau and other researchers have since conducted a series of studies that validate the model in other high school settings (Kuhlthau, 1988, 1989), in other types of libraries and with adults (Kuhlthau, Turock, George, & Belvin, 1990).

In her later work, Kuhlthau makes it clear that her model is not intended to be linear, as it appears on the printed page. Students move back and forth through the stages as they hypothesize, collect information and test. She has never revised the model in its printed format to reflect the iterative nature of the process.

Kuhlthau's line of research is important to understand the teaching and instructional partnering responsibilities of school library media specialists,

because her work provided evidence that the instructional expertise of a library media specialist was essential to helping students become proficient at conducting a search for information that results in meaningful learning and a quality product. Her research provided evidence that instruction and guidance was needed throughout the research process to help students understand the research process itself. Many teachers “lack the time, expertise, and inclination to offer the variety of media oriented experiences necessary to individualize or personalize instruction in an educational program” (Aaron, 1981). A certified school library media specialist, on the other hand, is trained and available to provide such instruction and to partner with teachers to develop lessons and units that integrate these skills with curriculum content. “Online tools can easily fall short of delivering the best results to clients unless librarians or other experienced researchers are there to help” (Nardi & O'Day, 1999).

Taken together, the contributions of Lance, Loertscher and Kuhlthau inform us about the teaching and consulting roles of school library media specialists. Lance's line of research found that variables characteristic of high-quality school library media programs significantly predicted increased student test scores. Among those variables were the number of library media staff members and the amount of time the school library media specialists spent teaching and partnering with teachers. These findings offered some evidence that the school library media specialist played an important role in the relationship between school library media programs and student test scores, although the exact nature of that role was not explored by Lance's studies.

Kuhlthau's research indicated that the teaching and partnering responsibilities of school library media specialists are crucial to students' learning as they move through the information search process. Loertscher provided a model of the ways in which the school library media specialist enacted the teaching and partnering responsibilities in schools. The work of these three authors provided strong evidence that the teaching and instructional partnering responsibilities of school library media specialists are an important component in the process of student learning.

Part 2: Literature Specific to Teaching and Instructional Partnering

The publication of *Information Power* (AASL & AECT, 1988) stimulated a small body of empirical research regarding the teaching and partnering responsibilities of school library media specialists. Ervin (1989), for example, conducted a survey of school library media specialists in South Carolina to determine whether or not they agreed philosophically with the *Information Power* roles, whether or not there was a relationship between the acceptance of and the assumption of those roles, and whether four demographic factors affect the assumption of the roles (Ervin, 1989).

Ervin randomly selected 200 South Carolina school library media specialists from the state of South Carolina's list of certified library media specialists. The sample was stratified with half of participants holding only library media certification and the other half holding library media as well as certifications in other content areas. Ervin administered a survey based on "A

Model Task List for Media Specialists,” developed by the Iowa Educational Media Association. Ervin used chi-squared analysis to analyze the relationships between variables in the study (Ervin, 1989).

Ervin found that 89.1 percent of South Carolina’s certified school library media specialists accept the teaching and consulting roles, and 63.4 percent of participants perceived that they were implementing those roles on an occasional or regular basis. She further found that the two largest barriers to implementation are lack of time and that the roles are not valued or understood by users. No significant relationship was found between South Carolina school library media specialists’ perceptions of and activities related to the teaching and instructional partnering responsibilities and any of the four demographic variables, including (a) grade level, (b) experience as a classroom teacher, (c) experience as a school library media specialist, and (d) subject area (Ervin, 1989).

Ervin’s study is valuable for several reasons. It was one of the first studies that attempted to understand the extent to which school library media specialists support and have implemented the *Information Power* roles. It also provided empirical evidence about what prevents school library media specialists from implementing those roles. Previous knowledge about these barriers had been primarily anecdotal.

While the study was well designed, it did have several weaknesses. First, no rationale was provided for dividing the sample equally between certified school library media specialists with and without additional certifications. She alluded to a desire to compare participants with and without teaching experience,

but then recognized that holding multiple certifications was not an implication of teaching experience. She did state that she determined from South Carolina State Department of Education records that two-thirds of South Carolina library media specialists had additional professional certifications and/or teaching experience. She also stated that she used a formula to calculate an adequate sample size, but provided no further detail about that formula.

Ervin discussed no procedures for weighting the responses by strata. She discussed all of the study's results with respect to the population of all South Carolina school library media specialists, with the exception of the chi-squared analyses that she conducted using certification and amount of experience. Because chi-squared analysis compares two samples regardless of the size of the population studied, the equal strata are not problematic for that portion of the study. However, her other analyses, mainly frequency distributions, cannot be generalized to the population without weighting the samples.

Second, Ervin's sampling frame only included certified school library media specialists. While this may have been the best sampling frame available, it did not tell us what happened in schools with uncertified library media specialists. Ervin did not tell us what proportion of schools did not have a certified school library media specialist, but it is not difficult to imagine that the implementation of the teaching and consulting roles in those schools might be different than in the schools included in Ervin's sample. Ervin's use of a sampling frame that included only South Carolina schools limited the study's generalizability to that state.

Finally, Ervin's results were limited by the use of chi-squared testing because this analysis method does not take advantage of the ordinal nature of rating scale data. Chi-squared testing did allow Ervin to compare groups using each point on her rating scale. Chi-squared testing does not, however, take into account the position of each rating scale point relative to the other rating scale points. In other words, chi-squared testing treats 1 on a rating scale the same as 5 and does not account for the relative positions of the intermediate points on the scale. Correlation or multiple regression methods might have yielded additional statistically significant results. While there is debate about whether the use of correlation and multiple regression is appropriate for the analysis of rating scale data, transformations such as Rasch scaling can be used to address that issue.

McCarthy (1997) conducted a mixed methods study to determine whether the goals of *Information Power* had been realized in 48 library media programs in New England, what prevents school library media specialists from implementing *Information Power*, and whether the implementation of *Information Power* can be realized in the current culture of schools. The sample consisted of New England mentor school library media specialists and their interns. The sample was selected by the interns, who chose the sites from a database of school library media programs in New England where school library media specialists had volunteered to serve as mentors within the previous five years. McCarthy noted that "the sites are viewed as exemplary, not because they are ideal, but because people are striving to provide effective programs" (McCarthy, 1997, p. 207). Each student selected two sites within commuting distance of home in which to

complete their 300 hour practicum field experiences. In addition to serving as mentors to the interns, the mentors agreed to participate in the study. The sites represented all grade levels: elementary, middle and high school. McCarthy, the researcher, was the intern supervisor at the university where the interns were studying to be school library media specialists (McCarthy, 1997).

Quantitative data were collected through a survey administered to the 48 mentor library media specialists and 56 student interns, for a total of 104 participants. The survey asked 15 questions about the requirements, objectives and challenges outlined in *Information Power* (AASL & AECT, 1988). The qualitative portion of the study involved observing interns and mentors in the context of the school culture. In addition, four open-ended questions were asked on the questionnaire (McCarthy, 1997).

McCarthy found that 42 percent of school library media specialists felt that the mission, objectives and challenges of *Information Power* are fully realizable, while 48 percent of interns felt the same. None of the school library media programs represented in the sample had fully implemented all of the *Information Power* guidelines. The mean responses for each guideline fell between "Somewhat" and "Frequently" for nearly every item on the questionnaire (McCarthy, 1997).

The mentors and interns reported the same barriers inhibiting the implementation of *Information Power*. They were lack of resources, lack of flexible scheduling, lack of support and commitment from teachers and administrators, lack of an educational philosophy or vision in the school

supportive of *Information Power*, and the school library media specialist's own inability to fulfill the instructional consultant role. McCarthy found that mentors and interns reported many of the same reasons that support the implementation of *Information Power*, including a strong school library media specialist, supportive administrators and teachers, collaboration with teachers, administration that provides sufficient resources, and a supportive educational philosophy or climate in the school. The number one positive influence was a strong school library media specialist. "Both practitioners and students recognized that it is the individual who creates effective programs, but without support, the library media specialist cannot fulfill the mission alone" (McCarthy, 1997, p. 209).

Participants in the study frequently cited non-library media related responsibilities such as study hall supervision and lack of flexible scheduling as preventing them from fully realizing the *Information Power* vision. They also described lack of technology, including online catalogs and circulation systems, as restricting their ability to deliver resources effectively to students and teachers. Finally, 46 of the 48 school library media specialists in the study reported that their budgets were insufficient for implementing the *Information Power* guidelines (McCarthy, 1997).

McCarthy's study provided insight into the barriers that school library media specialists perceived as preventing them from implementing *Information Power* in their schools. The study also uniquely identified factors that may help with implementing *Information Power*. It provided empirical evidence as to the

extent to which school library media specialists have implemented *Information Power*.

As with other studies on this subject, the sampling was problematic, limiting the study's generalizability. First, the manner in which the sample was selected biases it toward school library media specialists who are leaders in the field, particularly since all of the participants had also agreed to mentor novices. Second, the sample size was very small. Third, the inclusion of only New England schools limits the generalizability to that area, a delimitation that McCarthy acknowledges.

McCarthy's data analysis was also problematic. The inclusion of the interns in the study seems to serve no purpose. The interns, for the most part, had little or no experience working in school library media centers. Much of their knowledge of school library media services was constructed through their work with their mentors, and, therefore, shared much in common with their mentors. A better choice would have been to use stratified random sampling to ensure the inclusion of mentor-intern pairs in the sample, as well as school library media specialists without interns.

Studies conducted by Schon et al. (1991) and Johnson (1993) indicated that school library media specialists often place less importance on the instructional partner responsibility than on other aspects of their jobs. Schon et al. (1991) surveyed school library media specialists and principals in Arizona about the competencies or skills in six major professional areas that school library media specialists should have. The six professional areas were: (a)

professional matters, (b) library materials, (c) management, (d) human behavior, (e) planning and evaluation, and (f) learning. The theoretical framework for the professional areas and the items within them was not clear. The sampling frame for the study consisted of all Arizona schools. Questionnaires were mailed to a random sample of 30 percent of Arizona schools. The sample consisted of 224 library media specialists and 224 principals in the same schools. The researchers did not state how they knew whether the schools included in the sample were staffed by a school library media specialist. The response rates were 92 percent for school library media specialists and 75 percent for principals. Among participants, 144 pairs, or 64 percent, were from the same schools (Schon et al., 1991).

The questionnaire consisted of 41 items grouped by the six professional areas listed above. Because of the large number of results produced by this study, only the results from the learning professional area, which is the group that most closely represents the *Information Power* teaching and instructional partnering responsibilities. Participants ordered the importance of the items in each professional area separate from the items in the other areas, so the results of each area were independent of each other. The authors did not compare the results between professional areas.

Responses were reported in all of the professional areas, including the learning area discussed next, by the percentages of participating principals and librarians who ranked each item as their top priority for school library media specialists. Additional percentages were reported for both principals and

librarians for the average rank of importance for each item. Finally, the authors presented the percentages of participating principals and librarians who reported an item among their top three priorities for school library media specialists. The authors ordered items by the percentage in the top three priorities for the learning professional area. That is, the first item was the one that participants ranked most often in their top three rather than the one most often ranked first, and similarly for the order of the following items.

Of the six items in the learning professional area, both principals and school library media specialists reported that providing leadership for the development of educational objectives was the most important role for school library media specialists. The authors claimed that the rank order was the same for both principals and school library media specialists. This was only true when the items were ranked by participants who included the item among their top three priorities for school library media specialists. Ordering the data using the percentages of principals and librarians who ranked an item as first priority or by the average ranking produced different results. No rationale was provided for ordering participants' rankings by the percentage in the top three. In this literature review, the rank order is discussed as reported by the authors of the study.

The remaining five items in the learning professional area, as sorted by the authors, were ranked the same by both principals and school library media specialists. Those items were: (a) enabling students to take greater responsibility for their own learning, which supports Kuhlthau's (1985) assertion that student choice is a crucial factor in student learning, (b) assist learners in their pursuit of

individual and group inquiry, (c) participate in the design and construction of curriculum, (d) participate in a continuous program of curriculum evaluation, and (e) participate in student assessment. Data analysis was primarily calculation of the percentages of responses by principals and librarians of the items on the questionnaire. In addition, the authors calculated Pearson product-moment correlations of the sums of ranks calculated over the items in the category to determine whether responses between school library media specialists and the principals in their buildings differed significantly. The correlation coefficient comparing principals and librarians ranking of the items in the learning professional area was large ($r = .97$), indicating that participating principals and librarians strongly agreed on their priorities for school library media specialists. (Schon et al., 1991).

The results of the study indicated that, in the learning professional area, both principals and school library media specialists prioritized the development of school library media educational objectives as the primary role of the school library media specialist. Most activities related to teaching, with the exception of student assessment, ranked second, followed by activities related to instructional partnering. Student assessment ranked a distant last for both principals and school library media specialists, regardless of which column was used to sort the data (Schon et al., 1991).

Schon's et al. (1991) results indicated that both school library media specialists and their principals place a higher priority on the development of the school library media program's educational objectives than on other activities

related to teaching and instructional partnering. This may be a reason that school library media specialists may not teach and partner more. The random sample makes the study's findings more reliable than those of other studies reviewed thus far. As with other studies, the limited geographic region may limit the generalizability of the study to Arizona. Further, the data analysis methods could have been stronger. No analysis appears to have been conducted to determine if the sample was biased toward schools with highly supportive principals. No demographic data was collected to determine the professional qualifications of the school library media specialists. No rationale is provided to support the decision to rank questionnaire items based on whether participants included the item in their top three priorities. While this study contributed to our understanding of the role of school library media specialists, additional research is necessary to validate its findings.

Schon's et al. (1991) results indicated that the priorities of school library media specialists are closely aligned with the priorities of their principals, and that the priorities of both place less importance on instructional partnering than on teaching. The authors' results generally supported those of Ervin (1989) who found that school library media specialists generally valued their role as teachers. Schon and colleagues' results also provide a rationale for McCarthy's (1997) finding that only 42 percent of school library media specialists believed that the *Information Power* vision is fully realizable. Their research showed that student assessment and instructional partnering were relatively low priority, and both are key to realizing the *Information Power* vision. These priorities were likely

established to allocate scarce resources effectively, either in response to or in collaboration with the priorities of the principal.

Johnson (1993) used a mixed methods approach to study school library media specialists' implementation of the instructional consultant role. The survey portion of the study consisted of a questionnaire that measured participants' levels of instructional design and consultation based on Loertscher's (1988) school library media specialist taxonomy as well as inquired about demographics. The interview portion of the study included open-ended questions on the questionnaire and observations at a representative sample of participating library media centers (Johnson, 1993).

The population for the study was defined as all K-12 public school librarians in the southernmost 21 counties of Illinois, although no rationale was provided for this decision. All 109 persons who met this definition were sent questionnaires. Non-certified persons were excluded from the survey with the rationale that they are not qualified to serve as instructional consultants. Of the remaining 87 persons in the population, 62 returned surveys. Johnson then visited nine schools representing eight of the 21 counties as well as all grade levels. An opportunity to invite the researcher to visit was included on the questionnaire, and the library media specialists who offered invitations were included in the visitations (Johnson, 1993).

Johnson's findings indicated that participants did not perceive the instructional consultant role as highly important. The study indicated that the majority of participants function mainly in the lower eight levels of Loertscher's

taxonomy, below the level of instructional consultant. Twenty-three percent of participants were found to serve as active partners and team players in curriculum and instruction. The initiative, confidence, communication skills and leadership qualities of the school library media specialist were found to be the most important factors in determining the level of consulting (Johnson, 1993).

Johnson's study was one of the first to examine the instructional consulting work of school library media specialists. Her findings were an important contribution to our understanding of the extent to which the instructional consultant role has been implemented. Her sampling procedure, like the other studies, severely limited the generalizability of the results. The seemingly arbitrary selection of the population, the exclusion of non-certified library employees from the sample, and the lack of randomness in participant selection, both with the questionnaire and visitations, require further research in to validate the findings.

Pickard (1993) surveyed all 126 school library media specialists in the DeKalb County (Georgia) Public Schools in order to understand how important they felt the instructional consultant role to be, to what extent they practiced the instructional consultant role, and what demographic variables relate to their perceived importance and practice of the instructional consultant role. Eighty-three of the 128 DeKalb County school library media specialists responded to the survey. All DeKalb County school library media specialists had been instructed by their supervisor to implement at least one new instructional unit with

classroom teachers. They had been provided with training to do so (Pickard, 1993).

The questionnaire consisted of 18 statements about the instructional consultant role based on Loertscher's (1988) school library media specialist taxonomy. In the first section of the questionnaire, participants used a Likert-type scale to rate each statement in order of importance. The second part of the questionnaire asked them to rate the same statements according to their own practice. The third section asked a series of demographic questions and optional, open-ended comments. Data analysis consisted of calculation of frequencies. No evidence of statistical analysis of the relationship between demographic variables and item responses is evident, other than frequency distributions (Pickard, 1993).

Pickard found that participants, in general, perceived the instructional consultant role to be very important. However, they seemed to see their roles as supportive rather than as equal partners with classroom teachers. Like Schon, et al. (1991), Pickard found that school library media specialists generally view instructional leadership to be of lesser importance. Fewer than half of the participants reported that they practiced to a great or very great extent the highest levels of Loertscher's (1988) taxonomy, which are the instructional design levels. Pickard did note that only five percent of respondents reported not practicing level 9 of Loertscher's taxonomy, and only 10 percent reported not practicing level 10. Pickard made no claims about the demographic data, except to observe that the number of years of library media experience may impact the extent to which library media specialists interact with teachers. No description is

provided of the statistical analysis conducted to draw this conclusion (Pickard, 1993).

Pickard's findings were consistent with some previous studies, and conflict with others. Her study, like others reviewed here, was limited by its sampling methods. The selection of a large, wealthy, suburban school district in Georgia calls into question the generalizability of the study. Pickard should have conducted further demographic analysis in an effort to determine if the responding participants were representative of the DeKalb County school library media specialist population.

McCracken (2001) conducted a national survey of practicing school library media specialists' perceptions about their implementation of both the 1988 and 1998 editions of *Information Power* and the importance that they placed on the standards. Her sampling frame consisted of a marketing research mailing list, and she randomly sampled 1,000 school library media specialists nationally. Data analysis consisted of calculating mean scores for each question (McCracken, 2001).

McCracken found that participants regarded all responsibilities "to be more important than they are able to implement in practice" (McCracken, 2001, p. 12). These participants believed that the teaching and instructional partnering responsibilities were the least important of the four responsibilities, and they practiced the responsibilities in the order of their importance as perceived by participants.

McCracken found no significant differences in the perceptions of the importance of the different responsibilities by school library media specialists at different grade levels. There was no significant correlation between the number of years of experience as a school library media specialist and the perception of the importance of those responsibilities. Elementary school library media specialists who used flexible schedules were significantly more likely than their flexibly-scheduled counterparts at other grade levels to perceive themselves able to implement more responsibilities (McCracken, 2001).

Jones (1997) conducted a survey of Georgia school library media specialists and found widespread support for the instructional consultant role at all levels, but limited implementation of that role. Jones used the same questionnaire as Pickard, with minor modifications. Participants were asked to rate the 19 questionnaire statements about curricular involvement on both an ideal and actual scale. Jones selected a stratified random sample of 394 Georgia school library media specialists, stratified on grade level. In all, 207 questionnaires were returned for a 53 percent response rate.

Jones found that Georgia school library media specialists perceived that their curricular involvement is important, but that they were actually involved at a low level. She also found that high school library media specialists were more actively involved, although at a minimal level, than elementary or middle school library media specialists. Finally, the difference between the ideal and actual curriculum involvement of Georgia school library media specialists was significantly different.

In summary, research on the teaching and instructional partnering responsibilities of school library media specialists indicates that school library media specialists value highly their teaching responsibility and practice it accordingly (Ervin, 1989; Schon et al., 1991), although they may have lacked the resources to be able to do so completely, particularly with respect to student assessment. Scarce resources required them to prioritize, which Schon's et al. work indicated lowers the priority of most aspects of instructional partnering. Pickard (1993) supported Schon's et al. working, finding that participants in her study perceived the instructional partnering responsibility to be very important, although they practiced instructional partnering much less frequently than they expressed its importance. McCracken's (2001) research supported that of Pickard, with her finding that school library media specialists practiced all four *Information Power* responsibilities less than they indicate their importance, and that teaching and instructional partnering are less important than their roles as information specialist and program administrator. Jones' (1997) finding that Georgia school library media specialists viewed their curricular role as important supported the findings of the other researchers reviewed here, but her finding that their curriculum involvement was actually very low is inconsistent with other researchers' results.

Part 3: Literature about Specific Aspects of Teaching and Instructional Partnering

Several authors have looked at very specific factors that either influence or are influenced by school library media specialist as teacher and partner. Van

Deusen and Tallman (1994), for example, studied the relationship between scheduling and the teaching and instructional partnering responsibilities. The issue of scheduling is an ongoing struggle for school library media specialists. Many school library media advocates have argued that flexible scheduling is an essential factor in facilitating school library media specialists' teaching and partnering. One of *Information Power's* (1998) principles states that "the library media program requires flexible and equitable access to information, ideas, and resources for learning" (p. 89). Particularly in elementary schools, many library media centers operate on fixed scheduling. In other words, classes visit at a scheduled time each week, often without the classroom teacher present. Van Deusen and Tallman conducted their study to determine if there was a relationship between fixed versus flexible scheduling and the implementation of the teaching and partnering responsibilities.

The researchers drew a random sample of 1,500 elementary school library media specialists nationwide from a marketing list. Since fixed scheduling exists mainly in elementary schools, the researchers chose not to include secondary schools in the sample. Only schools that included at least three grades, one of which must be third or fourth grade, were included in an effort to exclude lower elementary and middle schools from the sample. Of the 1,500 school library media specialists sampled, 502 agreed to participate, and 397 returned questionnaires. The questionnaire asked several open-ended questions about teaching and partnering tasks in which respondents had participated recently. In addition, six questions were asked about the planning culture of the

school, the principal's expectations of school library media specialist and teacher collaboration, provisions for teacher release time (that is, fixed scheduling), and the school library media specialist's certification (Van Deusen & Tallman, 1994).

The researchers divided participants into three groups based on the scheduling used in their schools. The *fixed-scheduled* participants saw classes on a set schedule, often weekly, with or without the teacher present. The *flexibly-scheduled* participants had no set schedule for seeing classes. That is, classes and individual students used the library media center as need. The *mixed-scheduled* participants used a combination of fixed and flexible scheduling (Van Deusen & Tallman, 1994).

Van Deusen and Tallman also consolidated the questionnaire data about teaching and consulting into five variables: Gather, Identify, Plan, Teach, and Evaluate. These variables represented the level of the school library media specialist's involvement in instructional consulting, with "Gather" resources as the least amount of partnering represented by the study and "Evaluate" being the highest level of involvement. The mean number of occurrences of each of the five consulting variables was compared by scheduling group (i.e., flexible, fixed or mixed) using analysis of variance (ANOVA). Van Deusen and Tallman found that the mean number of occurrences of all five consulting variables were significantly higher in schools using mixed or flexible scheduling than those that using fixed scheduling. They observed that schools using mixed scheduling showed significantly more occurrences of four of five variables than schools using fixed scheduling, noting that fixed scheduling may not have had such a

negative impact on school library media specialists' teaching and consulting, as long as at least some portion of their time was flexibly scheduled (Van Deusen & Tallman, 1994).

Van Deusen and Tallman also studied the effect of a principal's expectations of teacher-library media specialist collaboration on school library media specialists' actual collaboration. They found that a principal's expectation of teacher-library media specialist collaboration exhibited a significantly higher incidence of all five consulting variables. The combination of mixed or flexible scheduling combined with the principal's expectation of team planning showed significantly more occurrences of all five variables than the principal's expectation combined with fixed scheduling. The combination of principals who expect collaboration with flexible scheduling indicated the largest amount of school library media specialist consultation. The combination of no principal expectation for collaboration with fixed scheduling indicated the least amount of school library media specialist consultation (Van Deusen & Tallman, 1994).

Van Deusen and Tallman further examined how the school library media specialist met with teachers. They found that the greatest amount of school library media specialist consultation occurred in schools with mixed or flexible scheduling when school library media specialists met with teams of teachers. All five consulting variables increased significantly with this combination of planning and scheduling. In addition, school library media specialists who met with teachers as a team had significantly higher occurrences of all five variables than those who met with teachers individually, who had more occurrences of all five

variables than those who did not meet with teachers at all (Van Deusen & Tallman, 1994).

Van Deusen and Tallman also studied school library media specialists' teaching activities related to scheduling. The study indicated that school library media specialists using mixed scheduling taught significantly more than those using flexible or fixed schedules. Further research is needed to better understand why this is the case. School library media specialists who met with teachers in teams were also more likely to teach than those who meet with teachers individually or not at all (Van Deusen & Tallman, 1994).

An important component of the *Information Power* vision of teaching is the assessment of student work. Previous studies reviewed here have indicated that assessment is a low priority for school library media specialists, and Van Deusen and Tallman's research validated those findings. They found that flexibly-scheduled library media specialists were involved in student assessment more frequently than their counterparts who operated on a fixed schedule. More than half of participants, though, assessed no student work in the six-week study period. Participation in assessment was more frequent in schools with a principal who expected collaboration and in schools where the library media specialist met with teachers than those who did not meet with teachers at all (Van Deusen & Tallman, 1994).

Van Deusen and Tallman next examined what they called "external conditions" and their relationship with the teaching and consulting roles. The first external condition was the school library media specialists' full-time or part-time

status within a building. The researchers found that full-time school library media specialists using mixed schedules reported significantly fewer instances of identifying objectives and assessing student work than did part-time library media specialists serving multiple buildings. The data in the study provided no indication of why this might be (Van Deusen & Tallman, 1994).

Flexibly-scheduled full-time school library media specialists serving one building reported significantly more gathering of materials, identifying objectives, and planning instruction than did flexibly scheduled part-time library media specialists serving one building. No significant differences were found between full-time and part-time school library media specialists in the mixed- and fixed-scheduled groups. Fixed- and mixed-scheduled part-time school library media specialists performed as much teaching and consulting as fixed- and mixed-scheduled full-time school library media specialists. This finding is somewhat perplexing and warrants further investigation. Finally, full-time library media specialists with flexible schedules taught and consulted significantly more than did mixed-scheduled full-time library media specialists, who taught and consulted more than their fixed-scheduled full-time counterparts (Van Deusen & Tallman, 1994).

The final external condition studied by Van Deusen and Tallman was certification. Of respondents, 11.5 percent were not state-certified. Certified school library media specialists were significantly more likely to perform all five consulting tasks than non-certified participants. No significant difference between

certified and non-certified participants was found on either the teaching or assessment variables (Van Deusen & Tallman, 1994).

The final part of Van Deusen and Tallman's study examined the instructional units described by participants. The researchers found that school library media specialists using fixed schedules identified 22 percent of their units as having been developed collaboratively with teachers. Sixty-two percent of lessons developed by flexibly scheduled school library media specialists were developed collaboratively. Despite that fact that only 24.5 percent of participants were flexibly scheduled, they produced more than twice as many collaborative units as the library media specialists operating on fixed schedules, who comprised 53.2 percent of participants (Van Deusen & Tallman, 1994).

Van Deusen and Tallman's research provides empirical evidence for many of the beliefs commonly held by school library media specialists. First, flexibly-scheduled school library media specialists were more likely to teach, consult, and assess student work than their fixed-scheduled counterparts. Mixed scheduling, which provides at least some flexible time, may have been adequate in some cases. Second, principals' expectations of teacher-school library media collaboration did appear to increase school library media specialist consultation. Third, school library media specialists who met with teachers in teams were more likely to consult than those who met with teachers individually or not at all. Fourth, the more time a flexibly scheduled school library media specialist spent in a building, the more time they spent teaching and consulting. Fifth, certified school library media specialists were more likely to consult than their non-

certified counterparts. Finally, flexibly scheduled school library media specialists were more likely to produce instructional units collaboratively with teachers.

Putnam (1996) conducted a survey that also examined the impact of scheduling on elementary school library media specialists' teaching and consulting. Her sample consisted of 296 names drawn randomly from the membership list of the American Library Association. Of those, 160 valid questionnaires were returned. The questionnaire contained 18 statements similar to Pickard's (1993) survey reviewed above. Putnam combined Pickard's two-part questionnaire into a single section with two Likert-type rating scales for each statement. The first rating scale rated the importance of each statement and the other to actual practice. The second section included four demographic questions. Means were calculated for each statement for both the importance and actual practice, and the differences tested with a t-test (Putnam, 1996).

Activities related to the traditional information specialist roles appeared at the top of both the importance and actual practice lists. Interestingly, consulting first appeared in the importance list in fourth place, above all teaching activities. In the actual practice list, the same item appeared in eleventh place. The statistical comparison of the mean values indicated that, with only one exception, all statements rating actual work practice had means significantly lower than for their perceived importance, meaning that that school library media specialists did not teach or consult as much as they think they should (Putnam, 1996).

Putnam also compared mean differences for each statement between participants who use fixed versus flexible scheduling. Putnam considered those

participants who reported using mixed scheduling as being flexibly scheduled. She found that participants with flexible schedules scored higher means on all statements than those operating on a fixed schedule. In eight out of 12 statements, the difference was significantly higher. McCracken (2001), reviewed above, also found that flexibly-scheduled school library media specialists taught and consulted more than do those operating on a fixed schedule.

Van Deusen (1996) conducted a case study of a new elementary school organized around the concept of collaboration. Her findings indicated that the school library media specialist acted as both “insider” and “outsider” in a collaborative teaching team. That is, as a teacher herself, the school library media specialist was an insider. The program administrator and instructional partner responsibilities made the school library media specialist more like a supervisor, and therefore an outsider. While Van Deusen’s research was valuable in the insight that it provided about the relationship between the school library media specialist and other teachers, her choice of a new school with a collaboration emphasis as the study site limited the generalizability of the study.

Part 4: Discussion of the Literature with Respect to Research Questions

This section of the literature review summarizes the research in the context of the research questions listed in Chapter 1.

1. To what extent have school library media specialists implemented the teaching and instructional partnering responsibilities, as described in *Information Power*?

Several researchers have attempted to quantify the amount of teaching and instructional partnering conducted by school library media specialists, but differing methods make the various results difficult to compare. Ervin (1989), for example, found that 63.4 percent of the South Carolina school library media specialists in her study had implemented the teaching and partnering responsibilities occasionally or on a regular basis. McCarthy (1997) found that none of her participants selected from New England schools had fully implemented all of the *Information Power* guidelines. McCarthy's study, however, did not further quantify the extent to which participants implemented teaching and instructional partnering.

Johnson (1993) found the 23 percent of southern Illinois library media specialists were active in curriculum and instruction, but did not disaggregate that percentage further. Pickard (1993) found that less than half of De Kalb County, Georgia, school library media specialists reported practicing to a great or very great extent the highest levels of Loertscher's (1988) school library media specialist taxonomy, which correspond approximately to the *Information Power* teaching and instructional partnering responsibilities. Pickard did find that only five percent of her participants reported no involvement in Loertscher's level 9 and only 10 percent reported no involvement in level 10. Level 9 is a low level of involvement as instructional partner, and level 10 is the highest level of involvement as instructional partner. Jones used Pickard's questionnaire to conduct a follow-up study of school library media specialists throughout Georgia. She found that participants' involvement in the curriculum to be at a low level.

The difficulty comparing the results of the research summarized above is in the very fundamental differences in the ways that researchers have designed their studies. None of the researchers cited above studied teaching and instructional partnering as separate processes. They each used different language like “curriculum involvement” to approximate the teaching and partnering responsibilities. Most have created their own instruments, although several were based on Loertscher. The questionnaires generally ask vague and theoretical questions that may lead participants to the “right answer.” Samples are limited geographically. The result is that all of these studies purport to measure similar constructs, but they cannot be compared with each other in any meaningful way.

This study attempted to set a standard for future researchers to address the wide variation in methods that make previous research so difficult to compare. The questionnaire items were selected to operationalize the responsibilities of school library media specialists without leading participants to specific answers, and the responses were scaled using the Rasch model to diagnose participants who may have overstated or understated their involvement in teaching and partnering. Rasch scaling also transforms rating scale data from ordinal to continuous data. It is an alternative to methods such as traditional Item Response Theory or repeatedly testing questionnaire items to determine whether the items actually measure what they were intended to measure. None of these methods was conducted by any of the authors cited above. The teaching and partnering responsibilities were clearly defined using *Information Power* and

Loertscher's taxonomy. School library media specialists with all types of professional credentials and from all types of schools were included in the sample in an attempt to achieve a sample representative of the population. All of these methods are described in detail in later chapters of this dissertation.

2. Which school library media specialists' perceptions about their teaching and instructional partnering responsibilities are predictive of the degree to which they have implemented those responsibilities?

The results of previous research are inconsistent with respect to whether school library media specialists perceive the teaching and instructional partnering responsibilities to be important. If a large proportion of school library media specialists do not believe in the importance of teaching and instructional partnering, the interventions and resources needed to affect change are very different than those needed if, for example, availability of resources such as staff, money or professional development are highly predictive of implementation of the teaching and instructional partnering responsibilities.

No previous research has attempted to use school library media specialists' perceptions of teaching and instructional partnering to predict the implementation of teaching and partnering. Several authors have, however, studied the relationship between school library media specialists' perceptions and the implementation of their teaching and instructional partnering. Ervin (1989) found that 89.1 percent of South Carolina school library media specialists "accept" the teaching and instructional partnering responsibilities. Schon et al.

(1991) found that Arizona school library media specialists and their principals ranked as the first responsibility of school library media specialists the development of educational objects for school library media programs. Activities related to teaching followed, followed by other activities related to instructional partnering.

McCracken's (2001) national survey indicated that school library media specialists practiced all four *Information Power* responsibilities less than they would like, and that they practice teaching and instructional partnering less than the information specialist and program administrator responsibilities. Her work supported that of Putnam (1996), who found similar results among members of the American Library Association, and Pickard (1993), who found that De Kalb County, Georgia, school library media specialists perceived that instructional partnering was very important, but that they practiced it much less than they perceived its importance. Johnson (1993), on the other hand, found that southern Illinois school library media specialists perceived the instructional partner responsibility as unimportant. McCarthy's (1997) study of selected New England school library media specialists found that participants reported feeling that the *Information Power* vision was not realizable.

Clearly, the data regarding school library media specialists' perceptions of teaching and partnering are inconsistent. The inconsistent results may be due to regional differences brought forward by studying regional populations. Further, the varying questionnaires may ask questions differently, possibly resulting in different measurements of what are intended to be similar constructs. Further,

only McCracken (2001) and Putnam (1996) have studied the teaching and instructional partnering responsibilities in conjunction with the other two *Information Power* responsibilities: information specialist and program administrator. Studying school library media specialists' perceptions of two responsibilities without studying the other two ignores important ideas such as how school library media specialists prioritize their work.

This study addressed the issues raised here in several ways. First, the construction of the questionnaire and the statistical methods, as discussed above under research question 1, attempted to provide a more objective way for participants to report their perceptions about the *Information Power* responsibilities. Second, I studied all four *Information Power* responsibilities simultaneously in an effort to better understand participants' perceptions about the teaching and instructional partnering responsibilities.

3. Which personal and professional characteristics of school library media specialists are predictive of the extent to which they have implemented the teaching and instructional partnering responsibilities?

This research question seeks to understand if variables related to the school library media specialist are predictive of the implementation of the teaching and instructional partnering responsibilities. Little previous research explored the relationship between characteristics of the library media specialist and teaching and instructional partnering. Van Deusen and Tallman's (1994) national survey found that certified school library media specialists were more

likely to perform all instructional partnering tasks than their non-certified counterparts. No significant difference between certified and non-certified participants was found with respect to teaching. McCarthy (1997) found that the inability of the school library media specialist to fulfill the instructional partnering responsibility was one of the frequently cited reasons that instructional partnering did not occur in some schools. Although McCarthy did not define inability, she implied that a personal quality of the library media specialist, such as personality type or lack of understanding of instructional partnering, prevented them from partnering. She did not study the variables underlying this inability.

The work of Lance and colleagues (Lance, 1994; Lance, Hamilton-Pennell, & Rodney, 2000; Lance, Rodney et al., 2000a; Lance, Rodney, & Hamilton-Pennell, 2000b, 2001; Lance et al., 1993; Rodney et al., 2003), Loertscher (1988; 2000), Kuhlthau (1985), and Nardi & O'Day (1999) suggests that the school library media specialist is crucial to students' successful learning as they move through the research process. It seems logical, then, that the characteristics of the school library media specialist herself would be a key subject of study for researchers attempting to understand the implementation of the teaching and instructional partnering responsibilities. This appears not to have occurred in previous research. Variables such as gender, age, professional credentials, involvement in professional organizations, and experience may be important in understanding the implementation of teaching and instructional partnering. These variables were included on this study's questionnaire to address the lack of previous research on them.

4. What characteristics of school and community are predictive of the extent to which school library media specialists have implemented the teaching and instructional partnering responsibilities?

Several studies have looked at the impact of various school and community characteristics on the implementation of the teaching and instructional partnering responsibilities. School characteristics include whether the school uses block scheduling, whether the library media center operates on a fixed or flexible schedule, grade level of the school, school type (public, non-public or charter), and school spending. Community characteristics include urbanicity and socioeconomic status.

Previous studies consistently indicate that the variables that predict the implementation of the teaching and partnering responsibilities are unaffected by community variables. Several school-related variables do seem to affect the implementation of teaching and instructional partnering. Van Deusen and Tallman (1994), for example, found in a national survey that school library media specialists who operate under a flexible or mixed schedule were more likely to teach and partner with teachers than their fixed-scheduled counterparts. Putnam's (1996) national survey of members of the American Library Association also found that flexibly-scheduled school library media specialists were more likely to teach and partner than their fixed-scheduled counterparts. McCracken (2001), in her national study, also found that flexibly-scheduled school library media specialists taught and consulted more than those operating on a fixed

schedule. Another aspect of scheduling, the number of buildings that one school library media specialist serves, also affects teaching and partnering (Van Deusen & Tallman, 1994). The more time a school library media specialist spends in a building, the more teaching and partnering they do. School culture also appears to affect school library media specialists' teaching and instructional partnering. Van Deusen and Tallman (1994) found that the addition of a supportive principal increased the amount of teaching and partnering, as did school library media specialists meeting with teams of teachers versus individual teachers.

Although I anticipated finding no differences between the results of this study and previous research with respect to school and community variables, I did include them as a way to validate previous research as well as this study.

5. What factors do school library media specialists perceive as preventing them from implementing the teaching and instructional partnering responsibilities?

Previous research does indicate that some proportion of school library media specialists have yet to implement the teaching and instructional partnering responsibilities because they perceive that various factors prevent them from doing so. The literature is neither consistent as to what those factors are nor as to what extent they inhibit the implementation of the teaching and instructional partnering responsibilities. Common barriers to teaching and partnering reported in previous research included lack of resources or funding (Ervin, 1989; McCarthy, 1997), lack of flexible scheduling (McCarthy, 1997; McCracken, 2001; Putnam, 1996; Van Deusen & Tallman, 1994), lack of support or understanding

by teachers or administrators (Ervin, 1989; McCarthy, 1997; Van Deusen & Tallman, 1994), lack of staffing, and lack of an educational philosophy in the school supportive of the library media program (McCarthy, 1997).

One barrier often cited by school library media specialists is lack of time (Ervin, 1989). More specific information about lack of time is needed to better understand this barrier because it is confounded with so many other variables. For example, is the level of professional or paraprofessional library media staffing insufficient, causing the school library media specialist to spend time on tasks other than teaching and instructional partnering? Is the school library media specialist assigned to non-library tasks? The list of confounding variables could be very long. This study attempted to better understand the variables that represent what library media specialists really mean when they cite lack of time by operationalizing the questions asked above.

Further, many of the questionnaires that inquire about barriers ask the participants to list the barriers in a free-response question. Seldom do these questionnaires ask participants to provide a numerical representation of the barriers. The questionnaire for this study asked participants to rate the importance of each barrier on a Likert-type scale so that the barriers could be analyzed statistically in relation to other variables.

Literature Review Conclusion

Given the conflicting data and gaps in the research regarding school library media specialists' perceived and practiced implementation of the teaching

and instructional partnering responsibilities, many questions remain about the nature of those responsibilities. Previous studies have yielded conflicting results that cannot be generalized to the population of school library media specialists (Neuman, 2003). Sampling appears to present a challenge for school library media researchers. The lack of a reasonably unbiased national sampling frame severely limits the ability of researchers to conduct national studies. It seems likely that research will continue at the state level. As we learn more about the practice of school library media specialists in each state, we will learn more about the validity of previous research.

Further, there is a clear rift between researchers who feel that non-certified library media staff should be excluded from samples, and those who recognize that many non-certified personnel are at least attempting to teach and partner, regardless of whether the professional community approves of such activity. Anecdotal evidence suggests that many certified school library media specialists feel that school library media centers should be staffed by certified professionals, when, in reality, many schools use paraprofessional staff, release-time classroom teachers, or parent volunteers to staff library media centers, with no professional supervision. This is reflected in *Information Power* (AASL & AECT, 1998), which calls on every school to staff its library media center with a certified professional library media specialist.

It appears that school library media researchers share this view, given the number of studies that include only certified professionals in their sampling frames. The studies cited in this chapter are representative of this issue. There

are so few studies that include non-certified school library media personnel that most of the existing research cannot be generalized to the population of all school library media specialists, which includes the many non-certified people acting as school library media specialists. While research is beginning to indicate that certified school library media specialists may be important to students' learning, the reality is that many schools do not have them. In order to be able to compare empirically certified and non-certified school library media personnel, it is essential that researchers include in their sampling frames non-certified personnel who are responsible for the operation of school library media centers.

Much additional research is needed to help clarify the conflicting data and fill in the gaps in research, as well as to address the methodological deficiencies of the literature reviewed in this chapter. Chapter 3 discusses the methods used in this study to address these gaps in previous research.

CHAPTER 3

METHOD

Previous research about the *Information Power* teaching and partnering responsibilities of school library media specialists has produced an incomplete and inconclusive understanding of those roles. Some research had indicated that school library media specialists support the teaching and partnering responsibilities, while other studies have found little support for those two roles. Reports of the extent to which school library media specialists have implemented the two responsibilities varies greatly from study to study. Finally, the barriers found to inhibit school library media specialists' teaching and instructional partnering vary widely between studies, and several have not been studied at all.

The five research questions outlined in Chapter 1 address several of these inconsistencies by (a) including certified and non-certified school library media specialists from public and non-public schools and public school academies in the sample, (b) using a questionnaire that includes specific items that all participants should understand and be able to respond to accurately and rating scales that do not encourage participants to overstate or understate their responses based on what they believe the answer "should be," (c) including potential barriers on the questionnaire with a rating scale to allow the statistical analysis of responses to those questions, and (d) scaling the data using Rasch and multiple regression analyses. Many of these are unique contributions to the literature of the field, and this is certainly the first study in school library media research to include all of these strategies and techniques in one study. This

chapter describes the method of this mixed-methods study, incorporating survey and interview methods, designed and conducted to answer the five research questions using the techniques listed above.

Research question 1: To what extent have school library media specialists implemented the teaching and instructional partnering responsibilities, as described in Information Power?

This question inquires about the extent to which school library media specialists have implemented the teaching and partnering responsibilities. Asking school library media specialists directly about their teaching and partnering practices was the most precise way to measure these variables. Because a relatively large volume of data is necessary to draw generalizable conclusions in this particular setting, a survey was the best way to collect this data. Follow-up interviews with outlying participants validated the survey data as well as provided qualitative data to paint a more complete picture of school library media specialists' teaching and partnering activities.

Research Question 2: Which school library media specialists' perceptions about their teaching and instructional partnering responsibilities are predictive of the degree to which they have implemented those responsibilities?

Previous research has suggested that school library media specialists' perceptions about the *Information Power* responsibilities correlated with their implementation of their roles. Research question 2 asks about this relationship

and goes one step further than previous research in that it seeks to predict the relationship between school library media specialists' perceptions and their practice. This relationship is important to understand for two reasons. First, if school library media specialists do not value the teaching and partnering responsibilities, the interventions necessary to increase their teaching and partnering would be very different than if, for example, lack of professional development more strongly predicted teaching and partnering practices. Second, if school library media specialists' perceptions about their teaching and partnering predict their practice, school administrators would have a more accessible means to evaluate school library media specialists' work. As with research question 1, survey and interview methods were more appropriate, informative and economical methods to answer this research question.

Research Question 3: Which personal and professional characteristics of school library media specialists are predictive of the extent to which they have implemented the teaching and instructional partnering responsibilities?

Research question 3 inquires about the relationship between characteristics of school library media specialists and their teaching and partnering practice. Such characteristics include age, gender, amount of experience, and certification status. The school library media profession has long held that certified school library media specialists are crucial to the process of teaching and partnering, although little research exists to support this claim. Previous research indicated that school library media specialists' experience and

academic credentials may have led to increased teaching and partnering. Like research question 2, survey and interview methods best addressed this question, and a regression model was necessary to study the predictive relationship between school library media specialist characteristics and the teaching and partnering responsibilities.

Research Question 4: What characteristics of school and community are predictive of the extent to which school library media specialists have implemented the teaching and instructional partnering responsibilities?

Research question 4 addresses the relationship between school and community variables and the teaching and partnering responsibilities. Little research has been conducted about the relationship between community variables, such as socioeconomic status, and teaching and partnering. Lance and colleagues have studied the relationship of community variables with student achievement with respect to school library media programs, they did not study the relationship of those variables with school library media specialist practice. Of the studies cited earlier in this dissertation, no community variables were found to have any relationship with school library media specialists' teaching and partnering. School variables, however, such as fixed versus flexible scheduling, appeared to correlate with teaching and partnering.

This research question goes further than previous studies in that it seeks to determine whether school and community variables predict teaching and partnering. Further, I felt it necessary to study community variables again

because of the unique use of variable operationalization, rating scale development and Rasch analysis. Such different methods than have been employed by previous researchers might yield different results. One potential use of such a finding would allow school library media professional developers to identify schools where an intervention might increase school library media specialists' teaching and partnering.

Research Question 5: What factors do school library media specialists perceive as preventing them from implementing the teaching and instructional partnering responsibilities?

Research Question 5 attempts to determine which variables prevent school library media specialists from teaching and consulting more. Previous research suggested that several barriers do exist. One common barrier reported is lack of time. Lack of time is really a proxy for a number of other barriers, including lack of paraprofessional staff, lack of professional staff and fixed scheduling. This study attempted to clarify our understanding of these barriers by collecting more precise data about them.

The five research questions suggested a mixed-methods study design. The primary data collection method was the survey, and the secondary method was a follow-up interview with outlying participants. A data set was needed to calculate the descriptive statistics required to answer Research Question 1. The survey questionnaire collected the data needed to develop the regression model that addressed the predictive relationships in Research Questions 2 through 4.

The survey data was also used to determine which barriers might prevent school library media specialists from teaching and partnering more to answer Research Question 5. Interviews of outlying survey participants validated the survey data and provided description of participants' practice. Detail about sampling, instrumentation, variables, data collection, statistical methods, and validity will be described in the remaining sections of this chapter.

Population and Sample

All five research questions inquire about the practice of school library media specialists. For this survey, "school library media specialist" was defined as anyone responsible for the daily operation of a library media center in a public or non-public school or public school academy, regardless of the professional qualifications of the respondent. For example, paraprofessionals or volunteers who had daily responsibility for a library media center were included.

Paraprofessionals, volunteers or other personnel supervised at any time by a school library media specialist were not included. Previous studies have excluded non-certified school library media staff from their samples despite the fact that paraprofessionals or parent volunteers are the only staff in many school library media centers. One purpose of this study was to better understand practice as it occurs in all schools, regardless of the credentials of the staff. Even more important, the study protocol may lead to further research in other states or at the national level. By including non-certified library media personnel in the population, the teaching and partnering activities of participants of various

backgrounds can be compared to determine what differences might exist between, for example, certified and non-certified library media personnel.

Previous national surveys of school library media specialists have used marketing lists or the membership list of the American Association of School Librarians (AASL). Both of these mailing lists are biased toward school library media specialists in communities of higher socioeconomic status. Communities of higher socioeconomic status might have more funding to employ certified school library media specialists. Certified library media specialists are more likely to purchase a wider selection of products and to belong to AASL because they have professional training that provides a greater awareness of the benefits of products and AASL membership. The AASL membership list is also biased toward more highly educated school library media specialists who are active in the professional community. Both lists are likely to exclude paraprofessionals and volunteers who frequently lack the professional networks and training that offer the knowledge and experience that enable them to purchase products and participate in professional organizations. No more inclusive national sampling frame for school library media specialists appears to exist.

The population was limited to Michigan school library media specialists due to the availability of a sampling frame that included all Michigan schools and the names of most Michigan school library media personnel. Most previous research about the teaching and partnering roles was limited to a specific geographic area, typically one state, a small group of states, or a region within a state. While Lance and colleagues conducted research on the impact of Michigan

school library media programs on student achievement, no research about the teaching and partnering responsibilities of Michigan school library media specialists exists. Although the study results are not generalizable to school library media specialists outside Michigan, the results can be compared with the findings of previous research in other regions. The methods used to conduct this study can be used by future researchers to help standardize research in other studies to provide better opportunities for comparison than has been possible with the hodge-podge of techniques that have characterized this type of research in the past.

Prior to the completion of this study, the two best estimates of the school library media population in Michigan were the Michigan Association for Media in Education's (MAME's) estimate of 4200 and the National Center for Education Statistics' (NCES') estimate of 1500 "public school librarians" (Chaney, 1998). MAME's estimate is based on their membership of approximately 2100, and an estimate that their membership consists of about half of the library media personnel in Michigan, including those who work in public and non-public schools and public school academies, as well as library media supervisors, intermediate school district library media personnel, educators of library media specialists, administrators who were former library media specialists and retirees. Further, MAME's estimate includes multiple library media staff members from many school buildings because some paraprofessionals are members of MAME, and some buildings have more than one certified library media specialist.

NCES' estimate may have underrepresented non-certified school library media specialists because NCES defined the sample unit for its surveys as the "head librarian" (Chaney, 1998). Although NCES did allow staff members other than the head librarian complete the questionnaire, its use of the phrase "head librarian" may have deterred some non-certified people from completing and returning the questionnaire. I hypothesized that the actual number, including non-certified school library media personnel, would be higher than that of NCES, which defined its population differently than that of this study, but not as high as the MAME estimate, which was more likely to approximate the number of Michigan schools with school library media centers.

I chose to sample the population rather than conduct a census. Sampling is a more economical method than census because it can be used to estimate population statistics without surveying every member of the population. Previous surveys about the teaching and partnering responsibilities provided statistical data that were used to calculate the necessary sample size.

Stratified random sampling was chosen rather than simple random sampling. Because the sample size was relatively small, it seemed likely that rural areas would have been underrepresented using a simple random sample. Three sampling strata were established: (a) Metropolitan Detroit, that is, Wayne, Oakland and Macomb Counties, (b) the remainder of the Lower Peninsula, and (c) the Upper Peninsula. The proportion of Michigan's population for each region was calculated using United States 2000 federal census data. See Table 1 for the size and proportion of each stratum.

Two other variables that may have been underrepresented without stratification were ethnicity and gender. No previous research indicated any difference in practice between school library media specialists of different ethnicities or gender. In addition, the cost of collecting enough data to determine the ethnicity and gender of school library media specialists prior to the study outweighed any potential benefit of stratifying on those variables. The questionnaire did ask participants to report their gender as a way to validate previous data regarding gender. The ratio of female to male school library media specialists has been well documented, so the results could be compared with those of previous studies.

To estimate the preferred sample size, I used the formula for calculating z-values for stratified random sampling using continuous variables (see equation 1), where n is the required size for stratum j to achieve statistical significance calculated using the other data in the formula, N represents the size of the population in stratum j , s is the standard deviation for the variable being tested, B is the band, or the possible range of values that the variable being tested could take, and z_{crit} is the critical value at the accepted level for type I error.

Typically, this formula is used to calculate a z-value to determine statistical significance. However, entering all of the variables except the sample size and solving for sample size yields an estimate of the sample size needed to achieve statistical significance. The use of this equation assumes that the variance or standard deviation and the mean of the variable being tested are known. Researchers often compare several variables using this technique to calculate

the smallest sample size needed to achieve statistical significance. The risk of sampling too large a proportion of the population is the additional cost of collecting and analyzing data. The cost of too small a sample is the increased likelihood of not achieving statistical significance.

$$n_j = \left(\frac{\sum N_j \sqrt{s_j^2}}{\left(\frac{N^2 \cdot B^2}{z_{crit}^2} \right) + \sum N_j \sqrt{s_j^2}} \right) \left(N_j \sqrt{s_j^2} \right) \quad (1)$$

Two of the variables studied in this survey were participants' number of years' experience as a school library media specialist and number of years' experience as a classroom teacher. These variables have been measured in previous surveys, so there was data from which to estimate the variance of these variables. Ervin (1989) studied these variables and included the standard deviation for them in her work, making it the best data available to use for estimating sample size. Because these two variables were used by both Ervin and in this study, they were selected along with Ervin's standard deviations to estimate the desired sample size. The variances used in equation 1 were calculated by squaring Ervin's standard deviations.

I used MAME's estimate of 4200 for the population and the percentage of the general population living in the geographic area covered by each stratum to calculate the estimated population size for each stratum, represented by N_j in equation 1. I assumed an allowance for type I error for both variables of $\alpha=.05$,

yielding a critical value of 1.96, and a confidence band of one year. Table 1 shows the stratified random sample sizes required for both variables, number of years' experience teaching and number of years' experience as a school library media specialist. Variances for both variables were calculated by squaring the standard deviations found for those variables by Ervin (1989), which are shown in Table 1. The values shown in Table 1 were entered into equation 1, and total sample size required to achieve statistical significance, as well as the size of each stratum proportional to the population of each region as a percentage of the total general population of the state. Variances were equal across strata for each variable because no compelling argument could be made or previous research found indicating that variance would be different between the strata. Data collection costs were assumed to be equal across strata because no differences in data collection were needed for each stratum.

As shown in Table 1, equation 1 produced required sample sizes of 69 based on the variance for number of years' experience teaching and 179 for number of years as a library media specialist. I chose the larger sample size of 179 to be more conservative. Assuming a response rate of 65 percent, the size of each stratum was increased by 35 percent, and 275 questionnaires were mailed. Of the schools to which the questionnaires were mailed, three had closed and four shared two school library media specialists. Since the unit of analysis was the school library media specialist, the two school library media specialists who were contacted twice were allowed to submit only one questionnaire each. In addition, three participants responded but opted out of the study, resulting in a

Table 1

Estimated Sample Strata Sizes Required for Statistical Significance

Variable from sample size estimate formula	Years	Years as
	teaching	library media specialist
Critical value (Z_{crit})	1.96	1.96
Variance from Ervin (1989)	17.81	48.44
Band, in years (B)	1.0	1.0
Population estimate (N)	4200	4200
Sample size required	69	179
Stratum 1 population estimate: Metropolitan Detroit (N_j)	1706	1706
Stratum 1 sample size: Metropolitan Detroit (n_j)	28	73
Stratum 2 population estimate: Lower Peninsula (N_j)	2360	2360
Stratum 2 sample size: Lower Peninsula (n_j)	38	100
Stratum 3 population estimate: Upper Peninsula (N_j)	134	134
Stratum 3 sample size: Upper Peninsula (n_j)	3	6

total of 270 questionnaires mailed out that were eligible to be returned.

The sampling frame consisted of two data sets: the State School Code Master, which is the State of Michigan's official database of all Michigan schools, and MAME's directory of Michigan school library media personnel. MAME's directory included lists of school library media personnel for nearly every Michigan school district and building. I had intended to use MAME's directory to address survey mailings to participants by name because previous research indicated that response rates were higher when questionnaires were personally addressed (Dillman, 2000). The format of MAME's directory, however, made it impractical to use for randomly assigning numbers, sorting, and printing mailing labels and cover letters. The directory consisted of one or more handwritten, loose-leaf sheet for each school district, listing all of the buildings in the district and the names of their school library media specialists.

Further, as I began using the MAME directory, I discovered whole school districts were missing from the directory, and some buildings were missing within districts that were included. It was not known whether missing entries meant that some districts or buildings had not responded, whether the pages had been lost or misfiled in the loose-leaf notebooks, or if the buildings had no library media personnel. There was enough missing data that I decided that the MAME directory was too incomplete to use as the primary sampling frame.

As an alternative sampling frame, I chose to use the School Code Master to draw the sample, and then add the school library media specialists' names that were available from MAME's directory. This process afforded the opportunity

to use a complete sampling frame because every Michigan school is listed in the School Code Master, and, therefore, had the opportunity to be selected for the sample, whereas an unknown number of school districts were missing from MAME's directory. The disadvantage of using the School Code Master was that there was no way to know in advance which schools had school library media personnel, an issue that will be discussed in detail in Chapter 4.

Each school in the School Code Master was assigned a random identification number. Schools were sorted by sampling stratum, in other words, by geographic region, then by identification number. The number of schools equal to the proportion of the general population in each region was randomly selected from each stratum, and the names of school library media specialists were added using the MAME directory. Schools whose library media specialist name was unknown were sent to the attention of "Library Media Specialist." See Table 1 for detail regarding the calculation of the size of each stratum.

Based on the calculations shown in Table 1, and adjusted to assume a 65 percent response rate, 275 questionnaires were mailed to Michigan schools, and 109 valid responses were received. Many of the non-responses were from schools that did not have a school library media center. Exactly which schools did not have a library media center was not known until after data collection was complete, analysis had begun and I had conducted the follow-up telephone calls with non-responding schools. By that time, schools had begun summer vacations, so the library media specialists were no longer available to complete the survey. Had these issues been anticipated prior to data collection, the

schools without library media specialists could have been replaced in the sample with schools with staffed library media centers.

I calculated a response rate of 55.6 percent among sampled schools with library media personnel. Because the proportion of Michigan schools with library media personnel was unknown prior to the completion of the study, the response rate is part of the findings of the study. Additional detail on this calculation is included in Chapter 4.

The sampling plan was designed to draw a stratified random sample that was large enough to be representative of the population being studied and inclusive of all geographic regions of Michigan while not being larger than necessary to achieve statistical significance, thereby being as economical as possible. While the sample does not include school library media specialists outside Michigan, and, therefore, cannot be assumed to represent the national population, the results can be compared with those of other states as a benchmark comparison for further research. Further, the sampling method contributed to the literature in that it included school library media specialists with all types of credentials and from all types of schools.

Variables

The next phase of research design was to select the variables that would be operationalized as questionnaire items. I analyzed each of this study's research questions with respect to the literature cited in Chapter 2 to develop a list of dependent and independent variables to be operationalized. Table 2 shows

each research question and the independent and dependent variables resulting from each research question. Most of the independent variables shown in Table 2 were selected based on some indication from previous research that they may impact school library media specialists' teaching or instructional partnering.

The dependent variables for research questions 2 through 5 are school library media specialist teaching and instructional partnering. There is no dependent variable for research question 1, because that research question did not ask about any relationships between variables. The two independent variables for research question 1 are school library media specialist teaching and instructional partnering.

Research question 2 seeks to use some independent variables related to school library media specialists' perceptions of their own practice to predict two dependent variables: teaching and partnering. Previous research indicated that there they may be a relationship between school library media specialists' perceptions about the teaching and partnering responsibilities and their implementation of those responsibilities. For example, some previous literature indicated that school library media specialists may not be supportive of the teaching and partnering responsibilities, and, therefore, may not implement those responsibilities.

Research questions 3 and 4 ask about the personal and professional characteristics of school library media specialists and school and community characteristics, respectively, and their use as predictors of the teaching and partnering responsibilities. School library media advocates, for example, claim

Table 2

Relationships Studied between Independent and Dependent Variables

Research question	Independent variables	Dependent variables
1	Teaching extent	None
	Partnering extent	
2	Perceptions of teaching	Teaching extent
	Perceptions of partnering	Partnering extent
	Preferred vs. actual information specialist	
	Preferred vs. actual program administrator	
	Number of buildings served	
3	Certification	Teaching extent
	Bachelor's degree earned	Partnering extent
	Master's degree earned	
	Years teaching	
	Years as library media specialist	
	Professional organization involvement	
	Gender	
	Age	

Table 2 continued

Research	Dependent
Question	Variables
4	Teaching extent
School scheduling (block vs. traditional)	
Library media center scheduling (fixed vs. flexible)	Partnering extent
School type (public, non-public, public school academy)	
Grade level	
Urbanicity	
Socioeconomic status	
Geographic location	
5	Teaching extent
Lack of professional development	
Lack of funding for professional development	Partnering extent
Lack of funding for materials	
Lack of teacher understanding	
Lack of administrator understanding	
Lack of professional staff	
Lack of paraprofessional staff	
Lack of district library media supervisor	

Note. All independent variables in research questions 2 through 5 were studied with respect to both teaching and instructional partnering.

frequently that a certified school library media specialist is essential to teaching and partnering. Very little empirical research has been conducted to support or refute that claim. Little or no research has been conducted studying any possible relationship between community variables such as socioeconomic status and urbanicity as they relate to school library media specialists' teaching and partnering.

Research question 5 seeks to understand the barriers that might prevent school library media specialists from teaching and partnering more. Several studies about school library media specialist teaching and instructional partnering have shown that lack of time is reported frequently by school library media specialists as preventing them from teaching and partnering more. Lack of time is really the result of the lack of another resource, such as lack of staff or responsibilities outside the library media center. No previous research was found that attempted to further analyze the missing resources underlying reported lack of time.

Without a body of literature from which to draw on those underlying variables, I hypothesized what those variables might be. One such variable was reported differences between school library media specialists' preferred versus actual implementation of their information specialist role. That is, school library media specialists who spend more time than they would like on traditional librarian responsibilities might not have time to teach or partner. The independent variables listed in Table 2 for research question 5 might underlie lack of time. The attempt to determine potential reasons that school library media specialists report

lack of time so frequently as a deterrent to their teaching and instructional partnering is an important contribution of this study.

Operationalization of Variables

Since one purpose of the study was to better understand the teaching and partnering practices of non-certified library media personnel, it was crucial that the variables be operationalized in such a way as to be understandable by all participants working in school library media centers, but who may have had no training in the theory of the field, and who may have had no knowledge of *Information Power*. This approach differs greatly from the work of authors such as Ervin (1989) and Johnson (1993) who often used theoretical concepts about teaching and instructional partnering as the items on their questionnaires. Even when their questionnaires asked about concrete activities, the items often measured several different concepts in one item. Some items were so esoteric as to be completely unknown to some participants, and leading to participants who were familiar with the *Information Power* vision of a highly instructional role for school library media specialists. Ervin, for example, included in her questionnaire the following item measuring multiple constructs: "I schedule blocks of time to meet with individual teachers to determine the specific objectives of instructional units and to help select materials to meet the objectives" (Ervin, 1989, p. 162). Johnson's questionnaire included the item "use information, communication, and learning theories and models in relation to learning styles and individual differences among students" (Johnson, 1993, p.

122) This item not only measured multiple constructs, but was jargon-laden and likely esoteric to participants with little or no background in education.

In order to create items that measured what they intended to measure, that is, the work of school library media specialists, the variables addressed by research questions 2 and 3 were operationalized as lists of specific, concrete activities that most persons acting as a school library media specialist should have been able to understand, even without professional training. Since *Information Power* (AASL & AECT, 1998) was the basis of the definition of the responsibilities of school library media specialists, I began there to operationalize the concepts to be measured.

Three of the seven chapters in *Information Power* are organized around themes representing the work of school library media specialists: (a) learning and teaching, (b) information access and delivery, and (c) program administration. The teaching and instructional partnering responsibilities are described mainly in the chapter on learning and teaching. The information specialist responsibility corresponds closely with the chapter on information access and delivery, and the program administrator responsibility is described in the program administration chapter. Because these chapters were not written around the four responsibilities, there are elements of each responsibility in each chapter. Consequently, I synthesized multiple goals from each chapter to operationalize the goals as questionnaire items. This process is described in detail in the Instrumentation section later in this chapter.

Each chapter describes the nature of school library media specialists' work with respect to each of these areas and offers principles and guidelines for carrying out this work effectively (AASL & AECT, 1998). A questionnaire containing one item for every goal would have been too lengthy to expect participants to complete, so I used several criteria to prioritize which goals would be operationalized by items on the questionnaire. First, the goals selected for operationalization collectively need to capture the essence of the responsibility. Second, the items must reflect what all school library media specialists, regardless of professional preparation, should do at minimum to achieve the goals of that responsibility. Third, the concepts discussed in the questionnaire items must be understandable by most participants in order to increase the likelihood that they could respond to the questionnaire.

My approach to operationalizing the variables shown in Table 2 was to look at each of the *Information Power* principles and goals and determine which activities would represent those concepts. To translate the goals into concrete activities, I relied heavily on Loertscher's (2000) school library media specialist taxonomy, but consulted questionnaires from other studies as well. Loertscher's taxonomy includes very specific activities that school library media specialists undertake at various levels of involvement in the school, from no involvement at level 1 to full involvement in curriculum design at level 10. Loertscher's taxonomy maps well to *Information Power* because the highest levels are the equivalent of instructional partnering, and teaching falls in the middle levels.

I also reviewed the questionnaires used in previous studies, such as those of Ervin (1989), Pickard (1993) and Johnson (1993), to examine their wording. Comparing these questionnaires, Loertscher's taxonomy and *Information Power* yielded a list of activities that I felt operationalized each *Information Power* responsibility accurately without making the questionnaire excessively long. Questionnaires that are too long discourage some participants from completing them. I did alter the language of each activity to make them succinct, clear, and so that they only measured one construct each. Many previous researchers included multiple constructs in their questionnaire items, calling into question what those items actually measured.

Rasch analysis, discussed later in this chapter, Chapter 4 and Appendix K, was used to test how well the variables were operationalized. Further, a pilot study, discussed in detail later in this chapter, was conducted with a small sample of convenience to test the construction of the questionnaire. With the activities selected for the questionnaire, the next step in the study design involved the construction of the questionnaire, described next.

Instrumentation

A mixed-methods approach consisting of a survey and follow-up interviews was determined to be the best method to collect the data necessary to answer the five research questions. For the survey, a questionnaire was developed that asked about participants' ideal and actual perceptions of their *Information Power* responsibilities (See Appendices B and C). In addition, the

questionnaire inquired about possible barriers to implementing the responsibilities and included a series of demographic questions about school and community variables.

The questionnaire consisted of eight item clusters, most of which consisted of several items to which participants were to respond. Questionnaire item clusters 1 and 2 asked about the grade level and school type at which participants worked. These two clusters were placed at the beginning of the questionnaire as questions to alert potential participants as to their eligibility to participate in the study. These two questions operationalized school type and grade level, which were among the school characteristics asked about by research question 4.

Questionnaire item clusters 3 and 4 (Table 3) operationalized the ideal and actual level of involvement, respectively, of the school library media specialist's activities related to the information specialist responsibility. The items were identical between the two clusters to allow me to compare participants' reported ideal and actual level of involvement in the information specialist responsibility. Differences in participants' responses to paired items

Table 3

Questionnaire Item Clusters 3 and 4 Mapped to Information Power Goals

Item	Goal
Selects materials for purchase	IAD 2.3
Selects instructional software for classroom use	IAD 2.3
Selects software for administrative use	IAD 2.3
Schedules teachers' use of audiovisual equipment	IAD 2.5
Delivers audiovisual equipment to classrooms	IAD 2.5
Repairs audiovisual equipment	IAD 2.6
Acquires materials (e.g., issue purchase order, track order)	IAD 2.3
Uses interlibrary loan to borrow materials for students	LT 5.6
Catalogs materials using original cataloging	IAD 2.4
Catalogs materials using existing cataloging from other sources	IAD 2.4
Processes materials (e.g., adding barcode, label, jacket cover)	IAD 2.4
Maintains a permanent archive of periodicals (i.e., does not discard back issues of at least some titles)	IAD 2.4
Checks out materials to students and teachers	IAD 2.5
Shelves materials after use	IAD 2.5
Inventories collections	IAD 2.5
Conducts book talks and/or story times for students	LT 6.1
Answers reference questions (e.g., "Where can I find information about cars?")	IAD 1.4

Table 3 continued

Item	Goal
Answers informational questions that are NOT reference questions (e.g., "May I have a rest room pass?", "When does the period end?")	IAD 1.4
Creates displays of materials for special events such as holidays	IAD 1.4
Gathers materials spontaneously when a class arrives with no advance planning	IAD 1.4
Gathers materials for classes to use in advance of a class project	IAD 1.4

Note. Information Power goals are coded as follows: Letters indicate the chapter (LT = Learning and Teaching, IAD = Information Access and Delivery, PA = Program Administration). Numbers indicate the principle and goal. For example, 7.3 indicates principle 7, goal 3. Responses were made on a 4-point scale (1 = not a library media responsibility, 2 = delegate to aide with minimal supervision, 3 = delegate to aide with close supervision, 4 = library media specialist responsibility). This cluster of items appeared on the survey as item cluster 3, measuring participants' ideal level of staffing, and item cluster 4, measuring participants' current level of staffing.

would indicate that they were not willing or able to delegate certain activities to others.

The information specialist responsibility represents the traditional activities of school librarians, such as materials acquisition, processing and circulation. *Information Power* (AASL & AECT, 1998) outlined seven principles related to information access and delivery, which approximate the information specialist responsibility. Each principle contained multiple goals for the school library media specialist. In addition, goals in other chapters were related to information specialist activities.

With respect to the information specialist role, I determined that the following goals met his three criteria for item development (a) Learning and Teaching, principle 5, goal 6, "Participate in electronic networks and resource sharing systems that expand the library media center's capacity to access information globally" (p. 66), (b) principle 6, goal 1, "Model the effective and enthusiastic use of books, videos, films, multimedia, and other creative expressions of information as sources of pleasure and information" (p. 67), (c) Information Access and Delivery, principle 1, goal 4:

Assist students and staff, through comprehensive reference service and such vehicles as bibliographies and resource lists, in identifying appropriate information resources and in interpreting and communicating their intellectual content (p. 86)

and (d) principle 2, goals 3 through 6:

3. Coordinate the acquisition and circulation of all information and instructional resources, including (a) printed materials, (b) realia, (c) hardware and software, (d) production equipment, [and] (e) adaptive resources for students and others with special needs
4. Organize all resources for effective and efficient use, through such measures as cataloging, classifying, and arranging all elements of the collection
5. Maintain centralized systems for bibliographic control, materials and equipment circulation, and information distribution
6. Manage space, equipment, resources, and supplies for the full range of library media programs and services (AASL & AECT, 1998, p. 86-87).

The activities listed in questionnaire item clusters 3 and 4 (Table 3) operationalized all of these goals.

The scale of items 3 and 4 was designed to measure which activities participants preferred to delegate to others and which they actually delegated. The scale ranged from "Not a Library Media Responsibility" to "Library Media Specialist Responsibility." Responses to item clusters 3 and 4 represented a portion of the independent variables embedded in research question 2.

The remainder of the independent variables and the two dependent variables included in research question 2 were operationalized by questionnaire item clusters 5 and 6 (Table 4). These two items represented the remaining three *Information Power* responsibilities: program administrator, teacher of information

Table 4

Questionnaire Item Clusters 5 and 6 Mapped to Information Power Goals

Items grouped by <i>Information Power</i> responsibility	Goal
<i>Program administrator</i>	
Supervises library media paraprofessionals and/or volunteers	PA 3.4
Administers library media program budget	PA 7.2
Distributes promotional materials about the library media program to school staff	LT 6.4
Distributes promotional materials about the library media program to school students	LT 6.4
Submits periodically a written report about the library media program to school administrator	PA 9.2
Presents statistics about library media center usage in numeric or graphical format to school administrator (can be part of a report, newsletter or other publication)	PA 9.2
Conducts presentations about the library media program to the school board or similar governing body	PA 9.2
Develops strong professional relationships with administrators within school(s)	PA 4.2
Administers school computer network	PA 3.3
Administers computer network user accounts and/or passwords	PA 3.3
Supervises computer lab that is part of library media center	PA 3.3
Supervises computer lab that is not part of library media center	PA 3.3

Table 4 continued

Items grouped by <i>Information Power</i> responsibility	Goal
<i>Teacher</i>	
Uses an information skills curriculum	LT 3.1
Uses flexible schedule (students visit library media center as needed)	IAD 4.1
Uses fixed schedule (classes visit library media center at scheduled times, generally without the classroom teacher)	IAD 4.1
Integrates information skills with subject matter content	LT 2.3
Uses an information search model (e.g., Big 6, REACTS, Kuhlthau) when teaching information skills	LT 3.1
Serves as computer lab teacher	LT 9.1
Serves as computer trainer for school staff	LT 9.2
Serves as the only teacher for one or more classes	
Teachers in such a way that students synthesize information from multiple sources when working on projects	LT 8.3
Teachers in such a way that students discover information rather than being told what to find	LT 10.1
Assesses students using methods authentic to the task	LT 3.3
Develops lessons that encourage students to use higher-order thinking skills like evaluation and synthesis	LT 8.3

Table 4 continued

Items grouped by <i>Information Power</i> responsibility	Goal
<i>Teacher continued</i>	
Develops lessons that encourage students to use critical thinking skills	LT 8.3
Allows students to choose research topics	LT 8.2
<i>Instructional Partner</i>	
Plans informally and briefly with teachers for research projects (e.g., in passing in the hallway)	LT 4.2
Collaborates formally with teachers to plan lessons	LT 4.2
Team teaches with classroom teachers	LT 3.3
Participates in assessing student work	LT 3.3
Evaluates the instructional process with the collaborating teacher	
Participates in instruction at all stages, from planning to evaluation	LT 3.3
Participates in teaching units where the entire unit content depends on library media center materials and activities	LT 1.4
Participates informally in the planning and development of the curriculum	LT 1.2
Serves as a member of at least one curriculum committee or other formal curriculum planning body	LT 1.2

Table 4 continued

*Note. Information Power goals are coded as follows: Letters indicate the chapter (LT = *Learning and Teaching*, IAD = *Information Access and Delivery*, PA = *Program Administration*). Numbers indicate the principle and goal. For example, 7.3 indicates principle 7, goal 3. Responses to item cluster 5 were made on a 4-point scale (1 = *not familiar with this role*, 2 = *not important*, 3 = *somewhat important*, 4 = *very important*). Responses to item cluster 6 were made on a 5-point scale (1 = *not part of my responsibility*, 2 = *unable to accomplish*, 3 = *insufficient resources, activity impaired*, 4 = *insufficient resources, but activity completed satisfactorily*, 5 = *adequate resources available for this activity*).*

skills, and instructional partner.

The items shown in Table 4 operationalized 18 *Information Power* goals.

The goals from the program administration chapter were:

Principle 3, goal 3: Collaborate with all staff, especially the school's information technology staff, to identify and use the full range of technologies required to meet students' and others' learning and information needs (p. 105).

Principle 3, goal 4: Monitor and supervise technical and clerical staff to facilitate smooth operation of the program (p. 105).

Principle 4, goal 2: Communicate regularly with the principal and other appropriate administrators about program plans, activities and accomplishments (p. 106).

Principle 7, goal 2: Administer the budget according to sound accounting procedures to meet all informational and instructional needs and report all expenses as required by local policies (p. 110).

Principle 9, goal 2: Report regularly on the program's plans, policies, and achievements to teachers, the principal, other administrators, and parents (p. 113).

The goals shown in Table 4 from the learning and teaching chapter were:

Principle 1, goal 2: Work on subject area and grade level teams and committees at the building, district, and state levels to (a) develop curriculum, (b) establish learning goals and objectives that incorporate information-literacy skills, [and] (c) recommend appropriate information

resources to support information literacy and critical thinking throughout the curriculum (p. 61).

Principle 1, goal 4: Collaborate with teachers, staff, and other members of the learning community to integrate information literacy competencies throughout the teaching and learning process (p. 61).

Principle 2, goal 3: Develop and promote specific plans for incorporating the information standards for student learning into day-to-day curricular and instructional activities (p. 63).

Principle 3, goal 1: Use the information literacy standards for student learning as a basis for curricular and instructional planning (p. 64).

Principle 3, goal 3: Teach and assess student achievement of information-literacy concepts and processes as determined through collaborative planning with teachers and other members of the learning community (p. 64).

Principle 4, goal 2: Design and implement teaching and learning activities, both individually and in collaboration with other faculty, that reflect the best in current research and practice (p. 65).

Principle 6, goal 4: Become an advocate inside and outside the school for reading and for literacy in print, graphic, and electronic formast (p. 67).

Principle 8, goal 2: Model the attitudes and skills of an independent, lifelong learner who values inquiry and is competent in all its stages and with all its tools (p. 69).

Principle 8, goal 3: Collaborate with teachers and others to educate students in the steps and criteria for efficient and effective inquiry (p. 70).

Principle 9, goal 1: Build and maintain expertise in assessing various technology products and processes for their potential to enhance learning (p. 70).

Principle 9, goal 2: Guide and assist the learning community in the use of new media and technologies for learning and teaching and in evaluating and selecting appropriate informational and instructional resources (p. 71).

Principle 10, goal 1: Create and sustain an environment that encourages information literacy, independent and collaborative inquiry, and lifelong learning (p. 72).

The goal shown in Table 4 from the information access and delivery chapter was:

Principle 4, goal 1: Work collaboratively with the learning community to develop and implement policies and practices that (a) make resources, facilities, and professional assistance available at the time of learning need through such mechanisms as flexible scheduling, extended service hours, and after-hours technology access; [and] (b) reflect principles of intellectual freedom and flexible and acceptable uses of information resources, technologies and facilities (p. 90).

Like item clusters 3 and 4, the items were identical between item clusters 5 and 6 and represented ideal perceptions versus actual practice. However, unlike the activities in clusters 3 and 4, many of the activities in clusters 5 and 6 represented the responsibility of a library media specialist and, therefore, should

not be delegated, so the scales were different than for clusters 3 and 4. The rating scale for cluster 5 measured the importance that participants placed on the activities associated with these three responsibilities, ranging from “Not Familiar with This Role” to “Very Important.” while the scale for cluster 6 measured the extent to which participants were able to complete successfully the activities listed. The scale ranged from “Not part of my responsibility” to “Adequate resources available for this activity,” with three intermediate points measuring the level of resources available and the satisfaction that participants felt about the activities related to the *Information Power* responsibilities.

The rating scale for item cluster 6 was difficult to design. A scale that asked participants to rate their satisfaction with their own performance of the teaching and instructional partnering responsibilities likely would have resulted in an overstatement of their satisfaction, resulting in an inflated measurement of the extent to which participants taught and partnered. It is not difficult to imagine that school library media specialists do not teach and partner to the extent that they themselves or the profession would like. If that is the case, then there must be something that prevents them from doing so. That “something” might represent a variety of variables, many of which have not been studied previously.

If we think of that variety of variables as “resources,” broadly defined, and inclusive of variables including, but not limited to funding, staff, professional development, personal knowledge, teacher support and administrator support, then a logical scale for item cluster 6 is a scale ranging from no involvement in teaching and instructional partnering to full involvement in those responsibilities

with all the resources needed to support that work. The intervening points on the scale would represent various levels of access to resources and different levels of involvement with teaching and instructional partnering. Such a scale provides participants with benchmarks to help them respond to the items more objectively than simply asking them to rate their job performance. The scale for item cluster 6 was developed following this logic.

Item cluster 7 addressed the independent variables in research question 5 (see Table 5). This cluster measured the degree to which various factors inhibited participants' ability to meet their professional goals. Previous research has shown that school library media specialists cited various factors that they perceived as preventing them from teaching and partnering. The potential barrier items in questionnaire item cluster 7 were compiled from previous studies, including Ervin (1989) and McCracken (2001).

Item cluster 8 included several demographic questions and operationalized the independent variables in research questions 3 and 4 (see Table 6). A few, such as type of school scheduling and educational attainment, have been studied previously (Ervin, 1989; McCracken, 2001). Most of the items in item cluster 8, however, have not been studied previously to determine if they impacted school library media specialists' implementation of the teaching and instructional partnering responsibilities, including involvement in specific professional organizations (see Table 7).

Table 5

Questionnaire Item Cluster 7: Potential Barriers

Potential barriers to teaching and instructional partnering
Lack of money for materials
Lack of professional library media staff in building
Lack of professional library media staff in district
Lack of paraprofessional library media staff in building
Lack of teacher understanding of library media specialist roles
Lack of administrator understanding of library media specialist roles
Lack of district level library media administrator
Lack of money for professional development
Lack of availability of professional development
Lack of adequate facilities
Lack of technology
Other
<i>Note.</i> Responses to item cluster 5 were made on a 4-point scale (1 = <i>not a barrier</i> , 2 = <i>minor barrier</i> , 3 = <i>difficult barrier</i> , 4 = <i>serious barrier</i>).

Pilot Study

A preliminary pilot of the questionnaire was mailed to 20 practicing school library media specialists. The pilot sample was a sample of convenience. Several participants reported that the questionnaire included too many items, but did complete the questionnaire fully. Several variables were not included in the final questionnaire due to problems with reporting accuracy in the pilot study. These

Table 6

Questionnaire Item Cluster 8: Demographics

School, community and demographic items

In how many school buildings do you work?

What is the ZIP code of the school building in which you work?

What type of class scheduling is used in your school?

How long have you been a library media specialist?

How much teaching experience do you have not including years as a library
media specialist?

If you have earned a bachelor's degree in any of the following areas, enter the
year earned

If you have earned a master's degree in any of the following areas, enter the year
earned

Do you have a valid teaching certificate?

If you hold a Michigan teaching certificate, does it include the ND (library media)
endorsement?

What is your gender?

What is your age?

Note. Responses options for class scheduling were *block*, *other*, and *not sure*. Response options for degrees earned were *library and/or information science*, *educational media*, *instructional technology*, and *other*. Response options for teaching certification and library media endorsement were *yes*, *no*, and *not sure*. Response options for gender were *female* and *male*.

Table 7

Questionnaire Item Cluster 8: Professional Involvement

Involvement in professional organizations

Michigan Association for Media in Education (MAME)
Michigan Association for Computer Use in Learning (MACUL)
Michigan Library Association (MLA)
American Association of School Librarians (AASL)
Young Adult Library Services Association (YALSA)
Association for Library Service to Children (ALSC)
International Society for Technology in Education (ISTE)

Note. Responses to item cluster 5 were made on a 4-point scale (1 = *not currently involved*, 2 = *attended event as non-member within the past year, but not otherwise involved*, 3 = *current member, but have not attended event in last year and not otherwise involved*, 4 = *attended event as member within the past year, but not otherwise involved*, 5 = *served on committee or other position within the past year*).

variables include urbanicity and community socioeconomic status, which were often left blank. Many of those who did respond did so incorrectly. Presumably, many participants did not know the answers to the questions. One of the items in item cluster 8 in the final questionnaire asked for school ZIP code, which I used to collect community information from United States census data, including data about socioeconomic status, urbanicity and geographic location.

Participants in the pilot study were sent a brief evaluation of the questionnaire, which asked for an estimate of the time needed to complete the

study and an open-ended question that asked for comments about the questionnaire. Other than minor typographical errors and the problem with community data described in the previous paragraph, no problems with the instrument were reported through the pilot.

Data Collection

The Tailored Design Method (TDM) (Dillman, 2000) was used to maximize the response rate of the survey. This method is a research-based strategy for increasing response rates. The TDM encompasses two areas: questionnaire design and mailing. The questionnaire was designed following the TDM, which prescribes the layout and appearance of the questionnaire. Factors such as question order, alternate shading of questions, use of white space and font type and size, and the layout of questions and rating scales were incorporated into the questionnaire following the TDM.

The TDM calls for five mailings, the first of which is a preliminary letter alerting the participant that they will receive the questionnaire in the mail in a few days. This letter was mailed on May 13, 2005 (Appendix B). The next mailing is the questionnaire with a personalized cover letter (Appendices B and C), a self-addressed stamped envelope and an incentive. Research has shown that a small incentive of one or two dollars increases response rates by approximately 12 percentage points (Dillman, 2000). For this study, a one-dollar bill was enclosed with each questionnaire. The questionnaires were mailed on May 17, 2005.

The third mailing is a postcard sent to all participants within a week after the questionnaire thanking those who have responded, urging those who have not responded to do so, and providing my contact information for anyone who might not have received the questionnaire (Appendix D) (Dillman, 2000). The postcards were mailed on May 23, 2005. The fourth mailing is another questionnaire packet without the financial incentive mailed only to nonrespondents (Dillman, 2000) and was mailed May 31, 2005 (Appendix E).

The fifth mailing is sent about a week after the fourth mailing using a noticeable method such as certified or registered mail to nonrespondents (Dillman, 2000). The fifth mailing was mailed on June 7 (Appendix F). I chose to mail this packet using first-class mail, but using a white and green, 9x10, first-class envelope to distinguish it from previous mailings which had been mailed in 9x6 kraft envelopes. By the time of the fifth mailing, I had discovered that the return rate was lower than expected due to the number of schools without library media centers. In addition, some schools were already closing for the summer by the time of this mailing. I decided that the additional cost of sending the fifth mailing by certified or registered mail was unlikely to yield enough responses to justify the cost. Additional information about this issue will be discussed in Chapter 4. See Table 8 for a summary of mailings.

A separate but related survey was conducted of the schools included in the sample. After the final deadline for submission of questionnaires had passed, I called a random sample of fifty percent of the schools that had not returned a

Table 8

Questionnaire Mailing Timeline

Mailing	Description	Date
1	Preliminary letter	May 13, 2005
2	Questionnaire with personalized cover letter and incentive	May 17, 2005
3	Postcard thank you and reminder	May 23, 2005
4	Questionnaire to non-respondents	May 31, 2005
5	Questionnaire in distinctive envelope to non-respondents	June 7, 2005

questionnaire. The school secretary in each building was asked whether the school had a library media center, and, if so, if the library media center was staffed by anyone, including a paraprofessional or parent volunteer.

The responses were recorded and used in calculating population size and the response rate, which is discussed in Chapter 4.

The second method for data collection was interview. The purpose of the interviews was twofold: to validate the data collected through the survey, and to provide qualitative data about the teaching and instructional partnering responsibilities. The Rasch fit data were analyzed to select participants for interviews. The Rasch infit mean square values for all participants were sorted in order. The infit mean square value is a measure of how well each participant “fits” the Rasch model. The expected infit mean square value for each participant is 1.0. A participant’s infit mean square value of less than 1.0 indicates that the Rasch model predicts less variation than expected in that participant’s responses

to the questionnaire. Values greater than 1.0 indicate more variation in the participant's response than the model predicted (Bond & Fox, 2001). Because the results of the Rasch analyses were an integral part of the results of this study, Rasch analysis is discussed conceptually later in this chapter, and the details of the analyses are discussed fully in Chapter 4.

Participants whose Rasch infit mean square values of 2.0 or larger or 0.3 or less were selected, and then three participants were chosen at random from both tails of both sets of Rasch data. In addition, all participants with infit mean square values equal to 0.99 and 1.0 were interviewed. The participants with low infit mean values fit the Rasch models most closely, meaning that their responses should have represented those of a typical library media specialists. This combination of outlying and typical respondents provided a sample of interviewees whose responses showed far more and far less variation than expected, as well as the participants whose responses were predicted by the Rasch model. By focusing on outlying participants, I intended to determine whether there was something unusual about the participants, or if there were a problem with the questionnaire. Ten questionnaire participants in all were selected to participate in a follow-up interview. One had retired, so nine participants were interviewed.

Participants were telephoned or e-mailed to invite them to participate in the interviews (Appendix G). All agreed to participate and completed an IRB-approved consent form (Appendix H). The interviews took approximately 20

minutes each and were recorded and transcribed for data analysis. Transcripts are attached in Appendix I.

Interview questions (Appendix J) were selected that met several criteria:

- To collect additional data regarding questions that did not yield expected responses, specifically questions about fixed and flexible scheduling and possible barriers to implementing the teaching and instructional partnering responsibilities. These questions will be discussed in more detail in Chapter 8.
- To collect demographic data to be used to validate survey questions
- To provide qualitative data to help clarify the quantitative data
- To address all five research questions

Data Analysis

The survey responses were entered in Microsoft Excel for export to Winsteps and SPSS for data analysis. A numerical representation of the location of a participant's practice on either the *Information Power* (1988; 1998) or Loertscher (1988; 2000) continuum was necessary in order to be able to assess the status of the implementation of the teaching and instructional partnering responsibilities. However, the non-continuous nature of Likert-type rating scales makes it inappropriate to perform mathematical operations on the questionnaire response (Andrich, 1988).

Without either repeated testing with large samples or scaling, rating scale responses cannot be considered to be continuous, and, therefore, are not

suitable for statistical procedures such as multiple regression analysis. Large rating scales with approximately seven to ten points have also been shown to represent rating scale items as continuous data. Large rating scales, however, can be difficult for participants to understand, and repeated measures with very large samples may be necessary to validate each item and to achieve the variability in responses often needed to achieve statistically significant results.

When extensive instrument testing and large rating scales are not the preferred options, researchers might use statistical methods such as chi-squared, which treat the data as categorical, and, therefore, lose the ordinal nature of the data. Or, they may choose an analysis method that scales the data so that it is continuous, while preserving the order of the data points. Rasch modeling is one such analysis method.

The Rasch model uses the natural logarithm of the odds of a participant's ability to move from left to right on the rating scale to scale the ordinal variables into continuous variables called Rasch measures (Andrich, 1988) (Equation 2).

$$\ln\left(\frac{\pi_{nik}}{1 - \pi_{nik}}\right) = \beta_n - \delta_i - \tau_k, \quad (2)$$

The formula calculates Rasch measures where π_{nik} represents the probability of participant n choosing one point k on the rating scale over the next higher rating scale point on questionnaire item i , " β_n is the person ability, δ_i is the item difficulty, and τ_k is the difficulty of the k th threshold" (Bond & Fox, 2001). The

variable k represents the points on the rating scale for the items being scaled. On a rating scale with four points, for example, k typically would range from 1 to 4 or 0 to 3, depending on how the scale was coded.

Taking the natural log of the odds preserves the order of each participant's responses, but not necessarily the actual distance between them. It also makes the data continuous because natural logarithms can take any value between positive and negative infinity. The original rating scale data can only take the discrete values that were assigned to each rating scale point. Taking the natural logarithm also has an advantage over simply using the odds in statistical analysis. Odds are bounded by 0 and 100. Because the natural logarithm is unbounded, it allows for an infinite range for the Rasch measures. The results of this process are used to generate a model intended to represent all participants in the data set on the construct being measured.

Rasch modeling uses the word "ability" to describe how far to the right a participant responded on the rating scale for each item. The word ability derives from the early use of Rasch modeling for educational assessment. In this study, a participant's ability is an indication of the extent to which they taught when ability statistics are analyzed for that participant's responses to the teaching section in questionnaire item cluster 6. The rating scale for item cluster 6 ranged from "Not part of my responsibility" at point 1 on the left to "Adequate resources available for this activity" at point 5 on the right. The more "able," or the further to the right on the rating scale, the participant responded to that cluster of items as

a group, the higher the Rasch measure for that participant for that item cluster, and consequently, the more that participant teaches.

Like person ability, the phrase “item difficulty” derives from educational assessment. Rasch item difficulty statistics estimate how far to the right on the rating scale all participants in the study were able to respond to a given item. The lower the odds that participants selected a point further to the right on the rating scale for an item, the more difficult the item. An item cluster that includes many difficult items will produce a lower Rasch measure. Using the extent of teaching example described above with respect to person ability, if most participants selected rating scale point 2 for most of the items in the teaching item cluster, compared with rating scale point 4 in the program administrator cluster, we would say that the items in the teaching cluster were more difficult than those in the program administrator cluster, and the Rasch measures for most participants would be lower for teaching than program administration. This would be an indication that participants in the study reported teaching less than they reported serving as program administrator.

The difficulty of the k th threshold is similar to item difficulty. The difference is that the item difficulty measures the difficulty of the item as a whole, whereas the difficulty of the k th threshold is a measure of the difficulty for participants moving between two specific rating scale points within an item. For example, it could be more difficult for a participant to select rating scale point 4 on a given item than point 3, but it might be even more difficult for that same participant to select point 5 over point 4.

The procedure for conducting Rasch analysis usually involves entering the raw data in a software package. For this study, I used WINSTEPS. Other packages include Quest, ConQuest and FACETS. In WINSTEPS, a set of control variables are entered. The control variables include the number of participants, the number of points on the rating scale, and the item identification numbers that are to be included in the analysis. Optional control variables allow the user to adjust the range of Rasch measures output as needed for the study.

The composite value of all participants' Rasch-transformed responses to a given item, or a group of items, is referred to as the Rasch measure. In this study, the questionnaire was divided into clusters of items. I entered in WINSTEPS the item numbers that were to be included in the Rasch measure for each cluster. The output from WINSTEPS was Rasch measures for each participant for item clusters 3; 4, 5, and 6, and the professional involvement part of item cluster 8. Item clusters 5 and 6 each contained three subsections, for a total of nine Rasch measures per participant. Each participant's Rasch measures were then matched to their other responses, generally demographic variables from item cluster 8 such as age, gender, and number of schools served. The entire data set, including raw data and the Rasch measures for each participant, was then entered in SPSS for multiple regression analysis.

After entering the control variables, I ran the Rasch analysis. WINSTEPS offers many tables and reports as output. For this study, I desired an output file of Rasch measures, which is the Rasch-scaled data set. Rasch models were developed for item clusters 3 (participants' ideal involvement as information

specialist), 4 (participants' actual involvement as information specialist), and each of the three subsections of item cluster 5 (ideal involvement as program administrator, teacher, and instructional partner). These clusters used a four-point rating scale, so there were a total of five sets of Rasch measures output for the four-point rating scale item clusters. Each of the three subsections of item cluster 6, measuring the actual extent to which participants served as program administrator, taught and partnered with teachers, and item cluster 8, involvement in professional organizations, used a five-point rating scale. Sets of Rasch measures were generated for each of these item clusters, for a total of four sets of Rasch measures for the five-point rating scale item clusters.

I had intended to generate Rasch measures for the individual barrier items in questionnaire item cluster 7. However, there was insufficient variability in the responses to each individual barrier for the Rasch model to run successfully with respect to these questionnaire items. A larger sample may have prevented that problem. There was sufficient variability for WINSTEPS to calculate a Rasch measure for the barriers collectively. I used this Rasch measure for further analysis on the collective barriers. In addition, analysis of the responses to the individual barrier items could be recoded as "Yes" or "No" responses that would allow further statistical testing on those items. This procedure and its results are described in detail in Chapter 5.

Because there are often outlying cases of both persons and items that do not fit the Rasch model well, an important group of diagnostic tests in Rasch analysis involve the "fit" of the participants and items. The two primary measures

of fit are “infit” and “outfit.” Both are chi-squared ratios. “Outfit is based on the conventional sum of squared standardized residuals,” while infit is an information-weighted sum. That is, the squared standardized residual values are weighted by their variances, then summed (Bond & Fox, 2001, p. 176). The infit and outfit statistics are analogous to variance in other statistical methods, but they are more complex than simple variance in that they compare each participant and each item to the values that the Rasch model expects based on each participant’s response to each questionnaire item.

Mean square values for both infit and outfit are expected to be 1.0. For Likert-type rating scale data, as used in this study, values between 0.6 and 1.4 for infit and outfit are generally considered to be reasonable. Lower mean squares indicate data that is too determined with too little variation, or too predictable. Higher mean squares indicate data that is too haphazard with too much variation, or not predictable enough (Bond & Fox, 2001). Data that is too determined might indicate that a participant responded to items in a pattern, such as alternating between choosing rating scale points 1 and 5. Data that is too haphazard could be an indication that a participant randomly selected rating scale points among the items included in the Rasch analysis. While either too determined or too haphazard a response string could be a legitimate response pattern, the purpose of the mean squares is to call my attention to such responses to look for evidence that the participant might need to be dropped from the study.

The nine different Rasch models developed for this study, resulted in 18 fit tables, one item fit table and one person fit table for each model. Item and person fit tables for each Rasch model are included in Appendix K as Tables K1 through K18. The data in these tables include (a) the participant number in person fit tables or questionnaire item number in item fit tables, (b) the raw score, (c) the Rasch measure, (d) the mean squares and the standardized z-scores for both infit and outfit, and (e) the point measure correlation. In the person fit tables, the raw score is the sum of the rating scale points selected for that person for the cluster of items included in the Rasch model. For example, if a person selected rating scale points 1, 3 and 2 on the three items in a cluster, their raw score would be 6. In the item fit tables, the raw score represents the sum of the rating scale points selected by all participants for that item.

The “Z Std,” or z-standardized column in the fit tables is the result of a t-test of the hypothesis “Do the data fit the model perfectly?” The expected value is zero. Negative values indicate too much predictability. Values greater than zero indicate data that is not predictable enough. This estimate of predictability follows the same logic described above with respect to mean squares. The z-standardized data provide a measure of model reliability in addition to the mean squares described above.

Point-measure correlation is the Pearson product-moment correlation between an item’s or person’s responses and the Rasch measures of that person. Negative or zero point-measure correlations indicate response strings that contradict the Rasch model, meaning that that item or person does not fit the

model. Since correlation coefficients are bounded by negative and positive 1.0, the closer a point-measure correlation is to 1.0, the better the person or item fits the Rasch model.

With all diagnostics of the Rasch models indicating that the participants and items fit the model well, I determined that no items or persons were so outlying that they needed to be dropped from the study and that the Rasch measures were reliable enough to use in further statistical analysis. Because the dependent variables in research questions 2 through 5 are the same, that is, the extent of teaching and the extent of instructional partnering, I chose to analyze the independent variables related to those questions simultaneously. Research questions 2 through 4 are framed as questions of prediction. That is, they all ask about the ability of several independent variables to predict two dependent variables. Research question 5, although not phrased as a question of prediction, is, in reality, a prediction question, in that it asks about the barriers that might impede school library media specialist teaching and partnering. Consequently, the appropriate statistical analysis to answer all of research questions 2 through 5 was multiple regression. Multiple regression is a statistical method that analyzes the relationships between multiple independent variables and one dependent variable. Because multiple regression only allows for one dependent variable, it was necessary to develop two multiple regression models, one to predict teaching and one to predict partnering.

The multiple regression models were developed using both backward elimination and stepwise. That is, I started with all of the independent variables

that correlated significantly with the dependent variables and removed them one at a time until I was satisfied that all of the variables that contributed little to the model had been removed. As a validation, another model was developed stepwise, starting with no independent variables and adding significantly correlated independent variables one at a time. I then looked at the differences between the two models and added and removed independent variables until the most parsimonious model that accounted for the most variability in the dependent variable was developed. This process was repeated for each dependent variable, teaching and instructional partnering.

The final phase of data analysis was the transcription and analysis of the interviews. I identified several weaknesses in the survey data, including information about barriers to teaching and instructional partnering, the relationships between library media specialists, teachers and administrators, and the educational backgrounds of participants. The interview transcripts were analyzed for those weak areas, and the results are described in Chapters 4 and 5 to supplement inconclusive or incomplete survey data. In addition, description from the interviews was included in Chapters 4 and 5 as a means of providing descriptive data to enhance the survey data.

This mixed-methods study was designed to address the five research questions listed in Chapter 1. It drew on previous literature cited in Chapter 2 to address gaps in previous research, to validate previous studies' findings, and to find alternatives to methodological problems of prior research. With the exception of the potential benefit of a national study, the study design accomplished all of

these goals. The results of the data analysis of both survey and interview data are discussed in Chapter 4. A discussion of the results of the study and its implications for further research are included in Chapter 5.

CHAPTER 4

RESULTS

The research design described in Chapter 3 resulted in the collection of data that yielded statistically significant results that address all five research questions. Some of this study's results supported the results of previous research. Other findings contradicted previous research. This chapter describes the findings of the data analysis, including an estimate of the population size for Michigan school library media specialists, which was not precisely known prior to this study, and an analysis of the sample compared with prior research as a means to validate the representation of the population by the sample.

Population Estimate

One of the biggest gaps in our understanding of the role of school library media specialists is the seemingly simple fact of how many there are. What should be a straightforward measurement is complicated by the debate over the definition of school library media specialist. As described earlier, for the purpose of this study, the population of school library media specialists is defined to include all persons acting as school library media specialists, with or without professional credentials. Without a population estimate, it is difficult to calculate response rates and estimate the resources needed to assist school library media specialists teach and partner. Therefore, the population estimate was the first statistical analysis conducted and the first to be discussed here.

While no precise measure of the number of Michigan school library media specialists existed prior to this study, the number of Michigan school buildings at the time of the study was known definitively. That number, 3,396, was counted on January 13, 2005, directly from the School Code Master, the State of Michigan's official database of Michigan schools. The database is very reliable because it is continually updated by local educational agencies as school buildings are opened or closed. The School Code Master includes every Michigan public, non-public and public school academy (PSA) building, and all intermediate school districts, local school districts, and PSA administrative offices. Only individual school buildings were included in the count of school buildings. That is, entries for school districts, PSA administration buildings and non-instructional buildings were not included in the count. The same version of the School Code Master was used to draw the sample for this study and to create the mailing labels for the study mailings.

Prior to completing the study, I did not anticipate the number of non-responses that occurred because schools included in the sample might not have been staffed by school library media personnel to complete and submit the questionnaire. After the deadline for submitting questionnaires had passed, I telephoned the building secretaries of a random sample of 50 percent of non-respondent schools. I asked two questions: whether the school had a library media center, and, if so, whether it was staffed by anyone. The telephone interviews revealed that 88.5 percent of all Michigan schools had a school library media center, including public, charter and non-public schools. The estimate was

comparable to the National Center for Education Statistics' (NCES) finding that 86.2 percent of Michigan public schools in 1999-2000 had a library media center (Holton, Bae, Baldrige, Brown, & Heffron, 2004).

Given the poor financial condition of Michigan schools over the last several years, it seems surprising that the percentage of schools with school library media centers has remained stable since NCES collected the data in 1999-2000. One would expect that schools struggling with funding might close their library media centers. Two explanations likely account for this stability. First, many Michigan school buildings have closed since 1999-2000. It may be that most school library media centers that have closed since then were in buildings that closed, keeping the percentage of schools with library media centers stable. Second, NCES only included public school districts in their percentage. This study included non-public schools and public school academies. Taking into account these factors, it seems likely that my estimate of the percentage of Michigan schools with school library media centers is accurate.

The second question in the telephone survey, about whether the school's library media center was staffed, indicated that 84.3 percent off Michigan schools with a school library media center are staffed at some level, whether by paraprofessionals, certified school library media specialists, or parent volunteers. No comparable statistic was available to validate this finding. NCES surveys asked for the number of librarians, which they defined as certified professional staff. Since the present study's sample includes non-certified library media personnel, it is not appropriate to compare this finding with NCES' data. No other

empirical data is known to exist regarding the proportion of Michigan school library media centers that are staffed, particularly since it was not clear how many school districts were missing from MAME's directory, and for what reason they were missing.

Based on the two results just presented, we can estimate that, of 3,396 school buildings in Michigan, 88.5 percent, or 3,005, had a library media center. Of those buildings with a library media center, 84.3 percent, or 2,534 were staffed. To estimate the number of school library media specialists in Michigan, we need a measure that relates numbers of school buildings with numbers of school library media specialists. One item on the questionnaire asked participants to report the number of school buildings in which they worked. The mean response to that item was 1.43. Dividing the estimated 2,534 Michigan schools with staffed library media centers by 1.43 yielded an estimated 1,772 Michigan school library media specialists.

The population estimate of approximately 1800 Michigan school library media specialists supported my hypothesis that MAME's population estimate of 4200 was too large and NCES' estimate of 1500 Michigan public school librarians was too small. This finding serves as a validation that the population estimate for Michigan school library media specialists found in this study is more accurate than previous estimates.

Response Rate

As described in the sampling section of Chapter 3, I knew at the time of the questionnaire mailing neither which schools had school library media centers nor which school library media centers were staffed. As mentioned in the Population Estimate section above, I estimated that 86.2 percent of Michigan schools had a library media center at the time of data collection, and 84.3 percent of those school library media centers were staffed. Applying those percentages to the number of questionnaires mailed out, we can estimate that, of the 270 eligible questionnaires, 86.2 percent, or 233, went to schools with a library media center, and 84.3 percent of those, or 197, went to staffed library media centers. Of the estimated 197 sent to staffed library media centers, a total of 109 eligible and usable responses were received, yielding a response rate of 55.3 percent, lower than my target of 65 percent, and slightly lower than Dillman's Tailored Design Method typically produces.

The lower than expected response rate can be attributed to several factors. First, the questionnaire was very long, and may have deterred some participants from returning it. Second, the use of the phrase "library media specialist" on the questionnaire and related mailing documents may have caused some non-certified school library media personnel from completing the questionnaire, because they may have assumed that certification was a requirement to participate, even though the eligibility requirements were repeated throughout the documents. Third, the timing of data collection was near the end of the school year when school employees are less likely to agree to complete

additional tasks. Finally, I chose not to send the fifth mailing by certified or registered mail, as recommended by Dillman (2000), because most schools were closed for the summer by the time of the fifth mailing. I felt that the use of certified or registered mail at that time of year would not yield sufficient additional responses to justify the cost. I did send the fifth mailing in larger, more distinctive envelopes than the previous mailings in an effort to catch the attention of the few non-respondents who would receive it.

Because the response rate was lower than expected, and the factors contributing to that low response rate may have introduced nonresponse bias, I felt that it was important to analyze the data with respect to data collected through other studies to validate the sample. The next section of this chapter offers descriptive data about the sample as a means to better understand various characteristics of respondents. I then compared some of that data with data about school library media centers collected periodically by the National Center for Education Statistics (NCES). That comparison is described later in this chapter.

Descriptive Statistics

I studied the demographic information reported by respondents as one way of detecting nonresponse bias in the data. Items 1 and 2 and item cluster 8 on the questionnaire collected demographic information from participants. Table 9 contains a summary of the demographic data for the three continuous demographic variables included on the questionnaire: (a) the number

Table 9

Descriptive Statistics for Continuous Demographic Variables

Variable	Minimum	Maximum	Mean	Standard deviation
Number of school buildings	1	5	1.42	0.822
Years as library media specialist	0	31	11.87	8.527
Years teaching	0	34	6.50	7.899
Age in years	23	69	48.78	9.145

of school buildings in which participants worked, (b) the number of years experience as a library media specialist, (c) the number of years that participants had taught, and (d) participants' reported age in years. The mean number of school buildings in which participants reported working, 1.42, along with a small standard deviation, suggests that most participants in the study work in 1 or 2 buildings, and the maximum was 5 buildings.

For years as library media specialist, years teaching, and participants' age, the data indicate that the population as a whole is distributed over more than 30 years, centered at about 12 years' experience as library media specialist and about 7 years' teaching experience, with about two-thirds falling within about eight years of the means. All of this data suggests that the population as a whole is experienced, but not yet close to retirement age.

Table 10 contains frequency distributions for the categorical demographic variables included on the questionnaire. Of these variables, only those with

unexpected distributions, that address one of the five research questions, or that require explanation of their meaning are discussed. School type shows that almost all responses were from public schools. The number of public school academy and non-public school participants was too small to be able to compare their responses with those of public school participants. The proportion by gender is about the expected value. The school library media profession has always been dominated by women, although the percentage of men in the field increases slightly each year.

The variables related to college degrees, both bachelor's and master's, are organized by participants' holding a degree in library science, a degree in a field other than library science, and whether they held any bachelor's or master's degree. Immediately after the master's degree variables is the highest degree earned by participants. All of the data in Table 10 suggest that the majority of participants are state-certified, that many more of them hold teaching certification, but not a library media endorsement, and that most were elementary or multilevel library media specialists. The descriptive data shown in Tables 9 and 10 provided the basis for comparing this data with that of previous studies conducted by the National Center for Education Statistics, discussed in the next section, as well as the correlation and multiple regression analysis discussed later in this chapter.

Comparison of Study Data with Previous Research

NCES collects data periodically about school library media programs.

Table 10

Descriptive Statistics for Categorical Demographic Variables

Variable	Group	N	%
Grade level	Elementary	44	40.4
	Middle	19	17.4
	High	18	16.5
	Multilevel	28	25.7
	Missing	0	0.0
School type	Public	95	87.2
	Public school academy (Charter)	2	1.8
	Non-public	12	11.0
	Missing	0	0.0
State-certified as SLMS	Yes	61	56.0
	No	30	27.5
	Not sure	3	2.8
	Missing	15	13.7
Gender	Female	101	92.7
	Male	6	5.5
	Missing	2	1.8
BA in LS	Yes	16	14.7
	No	93	85.3
	Missing	0	0.0

Table 10 continued

Variable		Group	<i>N</i>	%
BA not in LS	Yes		44	40.4
	No		65	59.6
	Missing		0	0.0
Any BA	Yes		80	73.4
	No		29	26.6
	Missing		0	0.0
MLS	Yes		54	49.5
	No		55	50.5
	Missing		0	0.0
MA not MLS	Yes		15	13.8
	No		94	86.2
	Missing		0	0.0
Any MA	Yes		68	62.4
	No		41	37.6
	Missing		0	0.0
Highest degree	None		27	24.8
	Bachelor		14	12.8
	Master		68	62.4
	Missing		0	0.0

Table 10 continued

Variable		Group	N	%
Teaching certification	Yes		83	76.1
	No		23	21.1
	Unsure		1	0.9
	Missing		2	1.8

Note: BA = bachelor's degree, including bachelor of science. LS = library science.

MA = master's degree, including master of science. MLS = master of library

science. SLMS = school library media specialist.

About every 10 years, a thorough survey of facility, staffing and program is conducted, and shorter surveys are conducted in the interim. The most recent comprehensive NCES data set for school library media centers was for the 1993-1994 school year (Chaney, 1998). The NCES 1993-94 data included a wide range of data regarding all aspects of school library media centers, including variables related to school library media specialists. Most variables were disaggregated by state, making it possible to compare the data from the present study with the NCES data for Michigan school library media specialists.

NCES collected a less comprehensive school library media center data during the 1999-2000 school year (Holton et al., 2004). This data set focused on school library media center variables rather than school library media specialist variables. However, the recency of the data compared with the 1993-1994 data set made it beneficial to compare the few variables about school library media specialists that that data set shared with the present study's data. Both the 1993-1994 and 1999-2000 NCES data were disaggregated by state, so no manipulation of the data was necessary to conduct statistical comparisons with this study's data.

The 1999-2000 NCES data (Holton et al., 2004) included three variables that could be compared with the data in the present study: (a) the percentage of Michigan public schools with library media centers, (b) the percentage of public school library media specialists with a bachelor's degree as the highest degree earned, and (c) the percentage of school library media specialists with a master's degree in library science (MLS). Because all of these variables were proportions,

and the population and sample sizes were known, the appropriate comparison statistic was the z-test. The z-test showed that two of the variables, the percentage of Michigan public schools with library media centers ($z = 0.875$, $p < .50$) and the percentage of public school library media specialists with a bachelor's degree as the highest degree earned ($z = 0.5$, $p = .50$) were not statistically significant different than the same data collected through this study..

There was a statistically significant difference between the two data sets in the percentage of school library media specialists with a master's degree in library science (MLS) ($z = 2.11$, $p < .05$). The 1999-2000 NCES data showed that 61.1 percent of public school library media specialists held an MLS, versus 49.5 percent in this study. Given the poor financial condition of Michigan schools since 1999-2000, it seems likely that the proportion of Michigan school library media specialists who hold the MLS would drop as school districts attempted to cut costs by closing library media centers and reassigning certified school library media specialists to the classroom. Therefore, a statistically significant reduction since the 1999-2000 school year in the proportion of Michigan school library media specialists hold the MLS seems plausible.

Another explanation for the statistically significant difference between the two studies in the proportion of Michigan school library media specialists who hold the MLS is sampling bias. It is possible that, given this study's lower than expected response rate, that some characteristic of nonrespondents made them more likely to not respond, and this characteristic could be related to the variables being measured in this study. For example, library media specialists

who do little instructional partnering might have been unwilling to participate in the study because they might have been antisocial or ashamed to report that they partnered little. On the other hand, a library media specialist who partners with teachers frequently might have felt that they lacked the time to participate in the study. In order to better understand the potential effects of such sampling bias, confidence intervals for the data were developed. These are discussed later in this chapter with the data related to research question 1.

The 1993-94 NCES data (Chaney, 1998) included several variables that could be compared with this study's data. These variables included (a) Michigan public school library media specialist mean age, (b) Michigan public school library media specialist mean years of service, (c) percentage of Michigan schools without a school librarian, and (d) percentage of Michigan public school library media specialists who are members of the American Association of School Librarians. See Table 11 for a summary of statistical comparisons between the NCES 1993-94 and this study's data. Of these variables, (a) Michigan public school library media specialist mean age, (b) Michigan public school library media specialist mean years of service, (c) the percentage of Michigan schools without a school library media specialist, (d) the percentage of Michigan public school library media specialists who were members of the American Association of School Librarians, and (e) the percentage of unstaffed school library media centers were not significantly different between the NCES data and this study's data. Of these, the finding of no difference in school library

Table 11

Statistical Comparison of NCES 1993-94 and Present Study Variables

Variable	This		
	NCES	study	Statistic
Library media specialist mean age	48.9	48.9	t = 0
Library media specialist mean years of service	11.9	12.4	t = 1.96
Percentage of Michigan schools without a library media specialist	30.0	27.0	z = 0.75
Percentage of Michigan library media specialists who are members of American Association of School Librarians	18.0	16.0	z = 0.5
Percentage of unstaffed Michigan school library media centers	14.0	13.8	z = 0.83
Percentage of Michigan library media specialists who are state-certified	77.3	69.4	z = 2.6*
Percentage of Michigan schools with a state-certified library media specialist	59.0	69.0	z = 2.5*
Percentage of female school library media specialists	88.0	95.0	z = 2.33*

* $p < .05$

media specialists' mean age and mean years of service is puzzling. One possibility is that older school library media specialists have left the profession, perhaps due to early retirement buyouts or their placement in the classroom, both for financial reasons. In either of those cases, in order for the means to remain the same, they have been replaced by younger school library media specialists, perhaps paraprofessionals who cost the school district less than certified people

Only three of the variables compared were significantly different between the two data sets. They were (a) the percentage of Michigan library media specialists who are state-certified, (b) the percentage of Michigan schools with a state-certified library media specialist, and (c) the percentage of school library media specialists who are women. A statistically significant decline in the percentage of state-certified school library media specialists can be expected as Michigan school library media specialists' positions have been eliminated due to budget reductions.

A statistically significant increase in the percentage of Michigan schools with state-certified school library media specialists is more difficult to explain. It may be that schools that have closed due to budget cuts were less likely to have had a state-certified school library media specialist, resulting in an increase in the percentage of state-certified school library media specialists in the schools remaining open. It may also have been the result of nonresponse bias if state-certified school library media specialists were more likely to have responded to this study's questionnaire.

The significant difference in the percentage of Michigan school library media specialists who are women is equally puzzling. The school library media profession traditionally has been dominated by women, although the percentage of men in the profession has increased gradually. It may be that, because men are newer to the profession, they have disproportionately left the profession, either voluntarily or involuntarily, in Michigan due to budget cuts. The increase may also have been due to nonresponse bias, although it is difficult to imagine what might cause women more than men to complete the questionnaire used in this study.

While NCES and I collected data from public schools, non-public schools and public school academies, the sample size for public school academies in all three studies was insufficient to generalize results to all types of schools. NCES disaggregated their data by public and non-public school, but did not further disaggregate by state, so it was not possible to compare their data with data from this study. Further, the sample size for non-public schools in the present data set was too small to draw any generalizable conclusions about that school type. While some general information about non-public school library media specialists can be extracted from this data, any conclusions drawn from this study can be generalized only to public school library media specialists.

The significant differences between some of the variables in common between this study, the 1993-1994 NCES data, and the 1999-2000 NCES data are evidence that the nature of the population has changed since the NCES data were collected. Further, there are some indications that nonresponse bias may

have affected some of the results of the study. Although the population of Michigan school library media specialists appears to have changed since the NCES data was collected, there are enough similarities between the NCES data and the data collected in this study to suggest that this study's sample was reasonable to use for further analysis.

Results with Respect to Research Questions

With an estimate of the population size, I examined next how the study data helped answer the five research questions. Research question 1, *To what extent have school library media specialists implemented the teaching and instructional partnering responsibilities?* can be answered by analyzing the descriptive data collected by the questionnaire. Research questions 2 through 5 are answered collectively using two regression models, discussed later in this section.

Research question 1 sought a numerical representation of the extent to which school library media specialists teach and partner. The answer to this question was essential to answering research questions 2 through 5, because the extent of teaching and partnering was the dependent variable in the regression models that answer research questions 2 through 5. As discussed in Chapter 3, questionnaire item cluster 6, teacher and instructional partner sections (Table 4 and Appendix C), operationalized the extent of teaching and partnering, respectively. A Rasch model was developed for each of these two sections of questionnaire items. The two models provided a composite Rasch

measure representing numerically the extent of participants' teaching and partnering. The Rasch output was scaled to make it easier to compare the Rasch measures to the questionnaire rating scale. See Tables 12 and 13 for a summary of the Rasch model. Details about Rasch analysis are described below

The data in Table 12 represent the summary model fit diagnostic information for all nine Rasch models. The data shown in Table 12 are means of the diagnostics for each individual person and each individual item. This information is valuable for diagnosing how well the data fit the Rasch model.

The item cluster labels in Table 12 represent the two item clusters for each *Information Power* responsibility operationalized on the questionnaire. The "ideal" level of involvement in each responsibility in item clusters 3 and 5 represents participants' perceptions about the responsibilities. The "actual" involvement from item clusters 4 and 6 represents how much participants actually practice those responsibilities. Item clusters 3 and 4 asked about the information specialist responsibility. Item clusters 5 and 6 included subclusters about each of the other three responsibilities: program administrator, teacher and instructional partner.

Outfit, as shown in Table 12, is the conventional sum of the squared standardized residuals. Infit is calculated by weighting each residual by its variance, then squaring and summing the weighted residuals. Infit statistics generally are evaluated before outfit statistics, because they take into account the relative deviation of each residual from the values predicted by the model. The two primary diagnostic statistics for both outfit and infit are mean squares,

Table 12

Rasch Model Fit Diagnostics

	Raw	Meas-	Std.	Infit		Outfit	
				Mean	Z	Mean	Z
	score	ure	error	sq.	std.	sq.	std.
Item cluster 3: Ideal information specialist							
Persons (N =109)							
Mean	59.3	57.59	2.88	1.04	-0.1	1.04	-0.1
Std. dev.	7.5	5.94	0.29	0.54	1.6	0.81	1.4
Items (N = 21)							
Mean	308.0	50.00	1.40	1.03	-0.5	1.03	-0.4
Std. dev.	67.6	10.95	0.58	0.59	3.7	0.66	3.7
Item cluster 4: Actual information specialist							
Persons (N =103)							
Mean	63.8	57.99	2.80	1.08	0.0	1.01	0.0
Std. dev.	11.1	7.15	0.58	0.52	1.5	0.77	1.2
Items (N = 21)							
Mean	313.1	50.00	1.33	1.01	-0.1	1.00	0.1
Std. dev.	65.6	8.70	0.43	0.44	2.7	0.56	2.2
Item cluster 5: Ideal program administrator							
Persons (N =108)							
Mean	41.6	64.62	4.55	1.00	-0.2	1.11	0.0
Std. dev.	6.1	9.47	1.08	0.82	1.5	1.44	1.2

Table 12 continued

	Raw	Meas-	Std.	Infit		Outfit	
				Mean	Z	Mean	Z
	score	ure	error	sq.	std.	sq.	std.
Item cluster 5: Ideal program administrator continued							
Items (<i>N</i> = 13)							
Mean	345.7	50.00	1.68	.99	0.0	1.13	0.4
Std. dev.	65.9	12.57	0.54	0.12	0.7	0.60	1.6
Item cluster 5: Ideal teacher							
Persons (<i>N</i> =106)							
Mean	43.8	60.71	3.97	1.00	-0.1	1.10	0.0
Std. dev.	7.8	9.00	0.92	0.70	1.4	1.24	1.3
Items (<i>N</i> = 14)							
Mean	331.3	50.00	1.48	1.07	0.2	1.11	0.3
Std. dev.	62.3	9.46	0.33	0.39	2.1	0.63	2.4
Item cluster 5: Ideal instructional partner							
Persons (<i>N</i> =94)							
Mean	28.3	62.53	5.82	1.00	-0.1	1.10	0.0
Std. dev.	6.0	14.27	1.88	0.70	1.4	1.10	1.5
Items (<i>N</i> = 9)							
Mean	295.3	50.00	1.63	1.04	-0.2	1.10	-0.2
Std. dev.	22.6	5.61	0.14	0.46	2.5	0.74	2.6

Table 12 continued

	Raw score	Meas- ure	Std. error	Infit		Outfit	
				Mean	Z	Mean	Z
				sq.	std.	sq.	std.
Item cluster 6: Actual program administrator							
Persons (N =106)							
Mean	39.3	49.64	2.54	1.05	-0.2	1.03	-0.1
Std. dev.	8.8	5.56	0.31	0.67	1.7	0.84	1.4
Items (N = 13)							
Mean	320.7	50.00	0.89	1.05	0.1	1.03	0.0
Std. dev.	92.8	6.59	0.11	0.26	1.6	0.23	1.1
Item cluster 6: Actual teacher							
Persons (N =107)							
Mean	41.3	48.91	2.29	1.06	-0.2	1.10	0.0
Std. dev.	11.0	5.38	0.42	0.57	1.7	0.69	1.5
Items (N = 14)							
Mean	315.6	50.00	0.81	1.03	-0.7	1.10	-0.4
Std. dev.	66.8	4.00	.05	0.60	4.1	0.75	3.7
Item cluster 6: Actual instructional partner							
Persons (N =97)							
Mean	25.7	48.88	3.88	1.10	-0.1	1.01	-0.1
Std. dev.	8.6	11.11	1.18	0.80	1.6	0.73	1.4

Table 12 continued

					Infit		Outfit
	Raw	Meas-	Std.	Mean	Z	Mean	Z
	score	ure	error	sq.	std.	sq.	std.
Item cluster 6: Actual instructional partner continued							
Items (<i>N</i> = 9)							
Mean	277.1	50.00	1.11	1.04	0.0	1.00	-0.2
Std. dev.	52.6	6.29	0.06	0.34	2.4	0.34	2.1
Item cluster 8: Involvement in professional organizations							
Persons (<i>N</i> = 63)							
Mean	11.6	32.77	5.27	0.92	-0.1	0.87	0.2
Std. dev.	3.3	6.65	1.54	0.78	1.1	1.21	0.9
Items (<i>N</i> = 7)							
Mean	104.3	50.00	1.96	1.02	0.1	0.89	0.0
Std. dev.	42.8	8.63	0.79	0.20	1.0	0.34	1.3

which is the mean of the sum of squares, and standardized z-score, which is a statistical comparison between each person and item and the values predicted by the Rasch model.

Mean squares estimate the randomness of the measurement system. The expected mean square value is 1.0. Values less than one indicate that the observations are too predictable. That is, participants may have responded using a pattern such as choosing all one rating scale item or alternating between two rating scale points. It is possible that such a response string is valid, but it requires further investigation to determine if the participant should be dropped from the study.

Mean square values greater than one indicate unpredictability in the data. In other words, participants' response strings were more random than the model would predict. On an academic assessment, this would be an indication of guessing the correct answers. On a questionnaire like the one used in this study, it might indicate that participants randomly selected response. As with mean squares less than one, this is an indication that the participant's responses should be evaluated further.

Mean squares in the range of 0.5 to 1.5 generally are considered productive for measurement, with values closer to 1.0 being preferable. As Table 12 indicates, all of the square values for the data in this study are very close to 1.0, indicating that the data are about as random as expected, and that the responses were neither too predictable nor too haphazard. This is one indication that the measurement of the variables is sound.

The Z Std., or z-standardized, column is a t-test comparison that tests the hypothesis “do the data fit the Rasch model perfectly?” Data that fit the Rasch model perfectly produce a standardized z-score of zero. Standardized z-values of less than zero indicate that the data are too predictable. Values greater than zero indicate lack of predictability. The generally accepted range for standardized z-scores is -2 to +2, and all standardized z-scores shown in Table 12 fall well within that range. This is another indication that the data fit the Rasch model well, but not too perfectly, which would call into question whether the data were too predictable.

The raw scores shown in Table 12 are the sums of the raw rating scale point values reported, both by person and by item. For example, if a participant selected rating scale points 1, 3 and 2 for the three items in an item cluster, that participant’s raw score would be 6.0. If the five participants in a study selected rating scale point 1, the raw score for that item would be 5.0. The raw scores are included in the table so that they can be compared with the Rasch measures, shown next to the raw scores, as well as to evaluate the standard deviations. This comparison is used later to answer research question 1.

Mean Rasch measures for persons and items are shown in the Measures column of Table 12. WINSTEPS must set an item mean to anchor all of the data from a single reference point. The default item mean Rasch measure is 50.0, which is shown in each cluster’s mean item raw score in Table 12. The researcher can change that value as the requirements of the study dictate. In this

study, there was no rationale for using a different item mean Rasch measure, so I accepted the default value.

The Std. Error column in Table 12 represents the amount of variability in the Rasch model not accounted for by the data, much like the standard error in other statistical tests. None of the standard errors were so large as to suggest that there might be an unacceptable amount of variability unaccounted for by the Rasch models used in this study. This is yet another indication that the questionnaire items measured what it intended to measure.

The number of persons and items for each Rasch model shown in Table 12 indicate the number of persons and items that were included in each Rasch analysis. When persons or items show extreme responses, that is, they are heavily skewed to one end of the rating scale or the other, WINSTEPS may not be able to measure those persons or items in relation to the other persons or items. In those cases, the persons or items may be dropped from the analysis. This can also happen if a person or item includes too much missing data to be included. In this study, WINSTEPS did not drop out any items. There were 109 participants in the study, and Table 12 shows that some of them were dropped from several of the Rasch analyses.

The only Rasch model for which enough participants were dropped to be of major concern is for that of item cluster 8, involvement in professional organizations. The fact that so many cases were extreme suggests that, overall, participants were either very involved in the organizations or involved minimally, if at all. This suggests that future questionnaires asking about participants'

involvement in professional organizations might use a rating scale with fewer points, such as “yes” and “no.” I considered dropping the cluster from further analysis, but opted to continue using the data to see if they had any impact on the study results.

The instructional partner sections of item clusters 5 and 6 also showed that several participants had been dropped due to extreme responses, perhaps because those participants reported much or little instructional partnering. I decided that enough participants had been included to continue using this data in the study. Of the item clusters measuring school library media specialists' perceptions of and practices about their *Information Power* roles, the item clusters regarding instructional partnering contained the fewest items. This may have contributed to the extreme responses by not provided sufficient data for the Rasch model to estimate measures of variability.

Table 13 contains reliability statistics that offer additional diagnostic information about the Rasch models. The reliability measures shown in Table 13 represent person, but not item, reliability diagnostics. Item reliability is best diagnosed using the data in Table 12 (Bond & Fox, 2001), so no item reliability data comparable to the person reliability data shown in Table 13 is included. The real model person separation is a ratio of the amount of variability that can be reproduced by the Rasch model compared to how much participants differ. The real model person separation is an unstandardized, and, therefore, unbounded, ratio, making it difficult to compare across multiple analyses.

Table 13

Rasch Model Person Reliability Diagnostics

Questionnaire item cluster	Real model	
	person separation	Person reliability
3: Ideal information specialist	1.53	0.70
4: Actual information specialist	1.97	0.80
5: Ideal program administrator	1.48	0.69
5: Ideal teacher	1.72	0.75
5: Ideal instructional partner	1.86	0.78
6: Actual program administrator	1.60	0.72
6: Actual teacher	1.73	0.75
6: Actual instructional partner	2.10	0.82
8: Involvement in professional organizations	0.49	0.19

The person reliability measures reported in Table 13 are the standardized measures expressed in standard error units and, therefore, are bounded by 0 and 1. Person reliability measures closer to 1 than 0 indicate a more reliable Rasch model. The person reliability measures in Table 13 are much closer to one than zero, indicating that the model can be considered as reliable.

The odd numbered tables in Appendix K, that is, Tables K1, K3, and so on, include the item misfit statistics for each Rasch model. The tables are ordered by the degree to which they do not fit the Rasch model. This information is more effective than mean item reliability measures to determine the reliability of individual items. Looking at all the item fit statistics together revealed all but eight questionnaire items had infit and outfit values fell less than 0.5 or greater than 2.0.

The six misfitting questionnaire items with high mean squares, indicating data that are more predictable than the model predicted, dealt with the selection of software for instructional and administrative use (items 3.2 and 3.3, respectively), the supervision of paraprofessionals (item 5.1.1), the use of fixed scheduling (items 5.2.3 and 6.2.3), and informal planning with teachers (item 5.3.1). Because software selection is, in many schools, not the responsibility of the school library media specialist, it is expected that these two questions would show more variability than others in the questionnaire.

Likewise, the supervision of paraprofessionals in most cases can only be done by certified library media specialists, so the responses were polarized among those who supervised and those who did not supervise

paraprofessionals. This question might have worked better as a yes or no demographic question. Some participants may have seen informal planning with teachers as a negative, causing them to give this item a low rating, despite the fact that both *Information Power* and Loertscher encourage such activities as part of school library media specialists' activities.

The item regarding fixed scheduling was not easily answered by the rating scale, and likely confused some participants. That item, as well as the related item regarding flexible scheduling, was recoded as fixed, mixed or flexibly scheduled and tested in the regression model as a dummy variable. Items regarding scheduling should be included on future questionnaires as demographic questions, with fixed, mixed and flexible as response options.

The two misfitting items with low mean squares, indicating too little predictability in the responses were an item about inventorying collections and an item with a word missing in the questionnaire that was intended to ask about evaluating the instructional process with the collaborating teacher. The question about inventorying collections likely had a wide variety of responses based on the staffing levels of the school resulting in a more random than expected response string. It seems unlikely that the wording or intent of the item could confuse participants. Most participants appear to have determined the intent of the evaluation item. Some likely skipped it or guessed a response that may not have fit their ability well resulting in the low mean square value for this item.

Taken together, the diagnostic measures shown in Tables 12 and 13 indicate that the Rasch models used in this study are reliable, and the data are

neither too predictable nor too haphazard. This is a strong indication that the persons included in the sample neither guessed nor intentionally completed the questionnaire using a particular pattern. Further, the item diagnostics indicate that the items on the questionnaire reliably measured the constructs that they were intended to measure.

With a strong indication that the Rasch models used in this study were valid, I proceeded to use the Rasch measures to attempt to answer the five research questions asked in this study. Research question 1 asked about the extent of school library media specialists' teaching and instructional partnering. Table 14 represents the frequency distribution of participants' Rasch-scaled responses to questionnaire item cluster 6, parts 2 and 3, the extent of teaching

Table 14

Raw Data Frequency Distribution: School Library Media Specialist Teaching and Instructional Partnering

N=109		Questionnaire rating scale, item cluster 6				
Variable		1	2	3	4	5
Teaching		6 (5.5)	23 (21.1)	44 (40.4)	34 (31.2)	2 (1.8)
Instructional partnering		18 (16.5)	28 (25.7)	30 (27.5)	28 (25.7)	4 (3.7)

Note. Responses were made on a 5-point scale (1 = *not part of my responsibility*, 2 = *insufficient resources, unable to accomplish*, 3 = *insufficient resources, responsibility impaired*, 4 = *insufficient resources, responsibility achieved satisfactorily*, 5 = *sufficient resources to achieve this responsibility*). Numbers in each cell represent number of responses (N), with percentage in parentheses, for each point on the rating scale.

and instructional partnering, respectively. The statistics in Table 14 represent the total number of participants who reported falling at each point on the five-point Likert-type rating scale (before Rasch scaling).

The raw data indicated that Michigan school library media specialists reported doing much teaching and partnering. Nearly 95 percent reported at least some teaching, while 90 percent reported at least some partnering. Over forty percent, however reported, that they lacked the resources to teach satisfactorily, and 27.5 percent of respondents reported lacking the resources to partner satisfactorily. Over one quarter of participants reported no teaching, and over 40 percent reported doing no instructional partnering. These data indicate that a large percentage of Michigan students receive no instructional services from their library media specialists. This issue is discussed further in Chapter 5.

The Rasch analysis diagnostic data provided additional information about the extent to which participants' teaching and instructional partnering. The Rasch measure incorporates the person ability, item difficulty, and threshold difficulty for each person and item in the study. Item difficulty is a measure of how far to the right on the rating scale a participant was able to choose a rating scale point. In this study, this is an approximation of the extent to which the participant reported teaching and instructional partnering in questionnaire item cluster 6. The Rasch measures for teaching and instructional partnering, ordered by measure, are shown in Table 15.

Table 15

Rasch Measures for Teaching and Instructional Partnering

Item	Meas- ure	Std. error	Infit		Outfit		Point measure correlation
			Mean	Z	Mean	Z	
			sq.	std.	sq.	std.	
Teaching							
6	57.98	0.91	1.45	2.7	1.26	1.1	0.37
8	55.59	0.83	1.62	4.3	1.72	3.0	0.3
7	55.26	0.8	1.17	1.4	1.06	0.4	0.43
5	52.48	0.76	0.68	-3.3	0.7	-2.1	0.59
14	51.43	0.75	0.9	-0.9	0.83	-1.1	0.6
11	51.26	0.76	0.74	-2.5	0.68	-2.4	0.63
1	48.7	0.77	0.86	-1.2	1.06	0.4	0.54
12	48.46	0.78	0.52	-4.7	0.54	-3.7	0.75
13	48.4	0.78	0.59	-3.9	0.61	-3	0.73
9	47.84	0.79	0.49	-4.9	0.5	-4.1	0.74
4	46.81	0.81	0.5	-4.7	0.51	-3.8	0.73
3	46.16	0.82	2.5	8	3.08	8.5	0.12
10	45.82	0.83	0.48	-4.6	0.5	-3.7	0.73
2	43.81	0.89	1.92	4.9	2.36	5.5	0.2
Instructional Partnering							
4	58.86	1.18	1.15	1	1.01	0.1	0.61
5	54.87	1.11	0.49	-4.3	0.44	-4.1	0.76

Table 15 continued

Item	Meas- ure	Std. error	Infit		Outfit		Point measure correlation
			Mean	Z	Mean	Z	
			sq.	std.	sq.	std.	
Instructional Partnering continued							
6	54.48	1.1	0.63	-2.9	0.6	-2.7	0.73
3	53.79	1.1	0.99	0	1.03	0.2	0.69
8	49.45	1.06	0.86	-1	0.82	-1.2	0.74
7	48.44	1.06	1.14	1	1.17	1	0.71
2	47.8	1.06	1.02	0.2	0.99	0	0.73
9	46.4	1.06	1.47	3.1	1.47	2.6	0.69
1	35.91	1.23	1.63	3.3	1.52	2.2	0.72

The data in Table 15 represent the Rasch measures for each item within the teaching and instructional partnering sections of questionnaire item cluster 6. The mean item measure for all items was 50, as anchored by WINSTEPS in the Rasch analysis. With that number as a midpoint, participants were more likely to engaged in the teaching activities represented by items 5 (*Uses an information search model*), 6 (*serves as computer lab teacher*), 7 (*serves as computer trainer for school staff*), 8 (*serves as the only teacher for one or more classes*), 11 (*assesses students using methods authentic to the task*), and 14 (*allows students to choose research topics*).than the mean Rasch measure of 50.0. The only surprise among these items was item 11. Previous research had shown that student assessment was a distant last in priorities for school library media specialists (Schon et al., 1991). Disappointing is the fact that items that were more reflective of the *Information Power* vision, such as item 4 (*Integrates information skills with subject matter content*) ranked below the mean.

With respect to instructional partnering, items 3 (*Team teaches with classroom teachers*), 4 (*Participates in assessing students' work*), 5 (*Evaluates the instructional process with the collaborating teacher*), and 6 (*Participates in instruction at all stages, from planning to evaluation*) all ranked above the Rasch measure mean. These items were much more closely aligned with the *Information Power* vision than the teaching items with the largest Rasch measures.

Both the raw data and the Rasch measures suggest that Michigan school library media specialists are teaching and partnering with teachers, although their

instructional partnering appears to be more closely aligned with the *Information Power* vision than their teaching. However, as discussed in Chapter 4, the potential of nonresponse bias due to the larger than anticipated non-response rate may impact these results as. In order to evaluate the potential impact of sampling bias on the data shown in Table 14, I calculated hypothetical values for non-responses (Table 16). The table represents the frequency distribution of reported extent to which participants taught and partnered with teachers assuming that 0, 30, 50 and 70 and 100 percent of the 88 non-respondents would have responded to the questionnaire on rating scale point 1, which would be the case if they were not familiar with teaching or instructional partnering. The purpose was to determine what the worst-case scenario impact on the raw data shown in Table 14. The lines in the table represent how the frequency distribution in Table 14 would change if various percentages of nonrespondents were to have selected rating scale point 1, *Not part of my responsibility*, had those nonrespondents chosen to participate in the study.

Because this was a worst-case hypothetical scenario, the percentage of nonrespondents was calculated for each level and added to the raw data frequency distribution for rating scale point 1. The rest of the nonrespondents were considered to remain as nonrespondents because there was no way to know how the rest of the nonrespondents would have responded. For example, for teaching in the 30 percent line, 30 percent of the 88 nonrespondents, or 27, were assumed to have selected rating scale point 1. The rest of the 88, or 61, were still considered to be nonrespondents, and, therefore, were not added to

Table 16

Frequency Distribution for Hypothetical Responses by Nonrespondents: School Library Media Specialist Teaching and Instructional Partnering

%	Questionnaire rating scale item cluster 6				
	1	2	3	4	5
Teaching					
0 (<i>N</i> = 109)	6 (5.5)	23 (21.1)	44 (40.4)	34 (31.2)	2 (1.8)
30 (<i>N</i> = 136)	33 (24.3)	23 (16.9)	44 (32.4)	34 (25.0)	2 (1.5)
50 (<i>N</i> = 153)	50 (32.7)	23 (15.0)	44 (28.8)	34 (22.2)	2 (1.3)
70 (<i>N</i> = 171)	68 (39.8)	23 (13.5)	44 (25.7)	34 (19.9)	2 (1.2)
100 (<i>N</i> = 197)	94 (47.7)	23 (11.7)	44 (22.3)	34 (17.3)	2 (1.0)
Partnering					
0 (<i>N</i> = 109)	18 (16.5)	28 (25.7)	30 (27.5)	28 (25.7)	4 (3.7)
30 (<i>N</i> = 136)	45 (33.0)	28 (20.6)	30 (22.1)	28 (20.6)	4 (2.9)
50 (<i>N</i> = 153)	62 (40.5)	28 (18.3)	30 (19.6)	28 (18.3)	4 (2.6)
70 (<i>N</i> = 171)	90 (52.6)	28 (16.4)	30 (17.5)	28 (16.4)	4 (2.3)
100 (<i>N</i> = 197)	106 (53.8)	28 (14.2)	30 (15.2)	28 (14.2)	4 (2.0)

Note. Responses were made on a 5-point scale (1 = not part of my responsibility, 2

= insufficient resources, unable to accomplish, 3 = insufficient resources,

responsibility impaired, 4 = insufficient resources, responsibility achieved

satisfactorily, 5 = sufficient resources to achieve this responsibility). Numbers in

each cell represent number of responses (*n*), with percentage in parentheses, for

each point on the rating scale.

the frequency distribution. The total N for that line in the table was then recalculated by adding 27 to the actual 109 responses, or 131. This number became the denominator for recalculating the rest of the percentages on that line. This procedure was also in keeping with the worst-case scenario because it only added responses to rating scale point 1, not points further to the right on the rating scale, which would have mitigated, at least somewhat, the effect of adding hypothetical responses to point 1.

The redistribution of the data based on the varying levels of hypothetical responses by nonrespondents shows an expected decrease in the extent of participants' teaching and instructional partnering. Even with 100 percent of nonrespondents hypothetically choosing rating scale point 1 for teaching, more than 40 percent of respondents would have reported at least some teaching, and more than 30 percent reporting at least some instructional partnering. The actual percentage likely lies somewhere between the low estimate and the percentages calculated from the raw data discussed above.

The data just described provides an answer to research question 1 and it provides the quantitative data for the dependent variables to answer research questions 2 through 5:

2. *Which school library media specialists' perceptions about their teaching and instructional partnering responsibilities are predictive of the degree to which they have implemented those responsibilities?*

3. *Which personal and professional characteristics of school library media specialists are predictive of the degree to which they have implemented the teaching and instructional partnering responsibilities?*
4. *What characteristics of school and community are predictive of the degree to which school library media specialists have implemented the teaching and instructional partnering responsibilities?*
5. *What factors do school library media specialists perceive as preventing them from implementing the teaching and instructional partnering responsibilities?*

Further analysis to detect potential nonresponse bias was conducted and is discussed after the following discussion of the multiple regression analysis.

Research questions 2 through 5 were addressed with two regression models, one to predict teaching, and the other to predict instructional partnering. It is important to understand that prediction and correlation, in the context of regression analysis, do not imply causality. Prediction and correlation both imply a relationship between two or more variables, but they generally cannot tell us that one variable causes a change in another. Prediction tells us that, if we know the value of an independent variable, we can predict the value of one or more dependent variables. Correlation tells us that, when an independent variable changes, a dependent variable changes as well. The reason that these

statistics generally cannot imply causality is that there may have been confounding variables that actually cause the change. Experimental and quasi-experimental methods are common ways to explore causal relationships between variables. Multiple regression methods repeated often with very large

Table 17

Significant Correlations between Independent and Dependent Variables

N = 109	Dependent variables			
	Teaching		Instructional partnering	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Independent variable				
RQ 2: practices and perceptions				
Ideal information specialist	.272	.106	.206	.032
Ideal program administrator	.407	.080	.240	.012
Ideal teaching	.332	.000	.348	.000
Ideal instructional partner	.176	.067	.458	.000
Actual program administrator	.545	.000	.563	.000
Actual teaching	--	--	.586	.000
Actual instructional partner	.586	.000	--	--
RQ 3: library media specialist characteristics				
Years as library media specialist	.222	.021	.206	.033
Years teaching	.224	.021	.224	.021
Bachelor's degree not in library science or technology	.280	.003	.197	.041
Master's degree in library science	.189	.049	.348	.000
Teaching certification	.420	.000	.542	.000
Certified as library media specialist	.264	.006	.339	.000
Participation in professional organizations	.233	.015	.417	.000

Table 17 continued

Independent variable	Dependent variables			
	Teaching		Instructional partnering	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
<i>N</i> = 109				
RQ 4: school and community				
Community per capita income	.230	.018	.246	.011
School district revenue	.246	.019	.192	.069
School district expenditures	.259	.014	.223	.035
Schools using other than block scheduling	.184	.055	.252	.008
Elementary	-.065	.502	-.249	.009
RQ 5: Barriers				
Barriers	-.242	.011	-.244	.011
Lack of money for materials	-.243	.011	-.263	.006
Lack of money for professional development	-.222	.021	-.233	.015
Lack of availability of professional development	-.150	.121	-.262	.006
Lack of adequate facilities	-.212	.027	-.101	.297

Note. RQ = research question

samples are also sometimes used to draw causal inferences, particularly when experimental methods are not an option.

Prior to developing the regression models, a correlation analysis of all of the independent variables and the two dependent variables was conducted to determine which independent variables correlated significantly with the dependent variables, as well as with other independent variables (Table 17). Table 17 is organized by research question, with the independent variables that correlate with one or both dependent variables and the correlation coefficient and probability listed under each research question. The word "Ideal" in Table 17 refers to responses from questionnaire item clusters 3 and 5, which asked participants' about their ideal level of involvement in the four *Information Power* roles: (a) information specialist, (b) program administrator, (c) teacher, and (d) instructional partner. Item clusters 4 and 6 asked participants the same items with respect to their actual practice. These variables are labeled in Table 17 as "actual."

For research question 2, about using school library media specialists' practices and perceptions about their practice to predict their teaching and instructional partnering, seven variables correlated with the extent of teaching and instructional partnering. Of these seven, the only surprise findings were the extent to which participants reported serving as program administrator, which correlated very highly with the extent of teaching and instructional partnering, and the extent to which participants preferred to serve as program administrator, which correlated significantly with instructional partnering, but not teaching. No

prior research has been found that discusses the program administrator responsibility with respect to teaching and instructional partnering. The relationship between program administration and teaching and instructional partnering is discussed throughout the rest of this chapter and in Chapter 5. Another important correlation related to research question two was the high correlation between teaching and instructional partnering ($r = .586$, $p = .000$). Although I did not realize the importance of this relationship at this point in the data analysis, this relationship was a very important finding of this study. This will be discussed in detail throughout the rest of this chapter and in Chapter 5.

The independent variables related to research question 3, about the ability to predict teaching and instructional partnering using personal and professional characteristics of school library media specialists, also contained a relatively large number of variables that yielded correlations with the extent of participants' teaching and instructional partnering. As Table 17 indicates, the strongest correlations in this group of variables are related to participants' professional preparation, such as degrees earned and certification. The relatively large number of correlations between the independent variables related to research questions 2 and 3, and the high correlation coefficients for some of those variables, such as the relationships between actual program administration, actual teaching, teaching certification, and actual instructional partnering, is evidence that the perceptions, practices and qualifications of the library media specialist are among the most important factors in the amount of teaching and

instructional partnering related to the school library media program occurs in a school.

Several characteristics of school and community correlated significantly with the implementation of teaching. Several variables related to the wealth of the school and its community correlated with more teaching and instructional partnering. The use of other than block scheduling correlated with more instructional partnering, but not teaching, and library media specialists in elementary schools were significantly less likely to partner with teachers than their counterparts at other grade levels, but not significantly less likely to teach.

Finally, the correlations with respect to research question 5, about the potential barriers to school library media specialists' teaching and instructional partnering, showed that the collective barriers included in questionnaire item cluster 7 negatively correlated with both teaching and instructional partnering. However, further analysis of the barriers collectively was of little use since research question 5 sought to understand specific barriers to teaching and instructional partnering.

The questionnaire asked participants to rate the degree to which they perceived that various barriers prevented them from achieving their professional goals. The study sample size was insufficient to analyze individual potential barriers using a Rasch model because the distribution of most individual items was skewed with too little variance, as shown in the columns labeled one through four in Table 18. Consequently, the Rasch scaling for the individual barrier items failed.

Table 18

Frequency Distribution of Reported Barriers to Teaching and Partnering

N = 109	Rating scale				Recoded	
Barriers: Lack of...	1	2	3	4	No	Yes
Money for materials	12	23	35	39	12	97
Professional library media staff in building	36	21	25	27	36	73
Professional library media staff in district	39	17	23	25	39	65
Paraprofessional library media staff in building	31	21	20	35	31	76
Teacher understanding of library media specialist responsibilities	22	37	25	23	22	85
Administrator understanding of library media specialist responsibilities	29	30	26	23	29	79
District level library media administrator	38	23	15	31	38	69
Money for professional development	17	25	33	33	17	91
Availability of professional development	33	24	29	22	33	75
Adequate facilities	55	27	14	13	55	54
Technology	50	37	13	8	50	58
Other (Please specify):	2	0	1	5	2	6

Note. Responses were made on a four-point scale: (1 = *not a barrier*, 2 = *minor barrier*, 3 = *difficult barrier*, 4 = *serious barrier*) and recoded as 1 = "No" and 2 through 4 as "Yes".

For this reason, I tried scaling all of the potential barriers together, producing one Rasch measure for the barriers collectively. This is the same process that was used to produce Rasch measures that represented the extent of participants' teaching and instructional partnering. The disadvantage of doing so was that the statistical tests could not produce any results for specific barriers, only the barriers collectively. The combined Rasch measure for all of the barrier items together correlated negatively with the implementation of the teaching responsibility ($r = -.242, p = .011$) and instructional partnering responsibility ($r = -.244, p = .011$). The Rasch measure for the barrier items collectively was not significant in the regression model, however, and, therefore, was not a good predictor of the implementation of the teaching and instructional partnering responsibilities.

Further analysis of the frequency distribution of the responses to the barrier items revealed that the items could be recoded as dichotomous categorical variables. Items rated as "Not a Barrier" were recoded as "No." All other responses were recoded as "Yes." This data is shown in the rightmost two columns of Table 18. In so doing, the recoded barrier data could be entered as dummy variables in the multiple regression analysis with all of the other independent variables, and without the necessity of Rasch analysis on the recoded barrier data.

The recoded data in Table 18 indicate that, with exception of lack of adequate facilities and lack of technology, participants believed by a wide margin that every potential barrier included in questionnaire item cluster 7 prevented

them from teaching and partnering more. However, only lack of funding for materials significantly predicted instructional partnering, but did not significantly predict teaching. The fact that participants reported that nearly all of the potential barriers to be problematic for them, and that the barriers as a cluster significantly predicted decreased teaching and instructional partnering suggests that there may be many barriers to school library media specialists' teaching and instructional partnering. Individually, the impact of most of those barriers is so minimal as to be not statistically significant. Collectively, however, they did predict less teaching and instructional partnering.

Correlation analysis of the recoded scores for each barrier revealed that lack of money for materials correlated negatively with the implementation of teaching and instructional partnering, lack of money for professional development correlated negatively with the implementation of teaching and instructional partnering, and lack of availability of professional development correlated negatively with the implementation of partnering (Table 18). In the final regression models, the only barrier that contributed significantly was lack of funding for materials with respect to instructional partnering.

After analyzing the correlational relationships between the independent and dependent variables, I used a stepwise approach to build a regression model to predict the extent to which Michigan school library media specialists have implemented the teaching and consulting roles. I started with the variables most highly correlated with teaching and partnering. One of each pair of highly intercorrelated variables were tested in the model, and then replaced with the

other variable to determine which accounted for more variability in the dependent variable. This process resulted in two regression models: one for teaching and one for instructional partnering. The final regression model for teaching is shown in Table 19, and the model for instructional partnering is shown in Table 20. See Appendix L for intermediate regression model results.

Tables 19 and 20 report the unstandardized and standardized regression coefficients and standard error for each variable included in the final regression models. Unstandardized regression coefficients, shown as *B* in Tables 19 and 20, measure the rate of change in the dependent variable, the extent of teaching or the extent of instructional partnering, for each unit change in the independent variable, with all other independent variables held constant. Because Rasch measures were used to measure the extent of teaching and the extent of instructional consulting, and the Rasch measures for items were scaled to a mean of 50, some of the regression coefficients are relatively large, such as the coefficient for teaching certification (Table 19). The relatively small sizes of other regression coefficients, such as that of ideal information specialist indicate why it is sometimes beneficial to scale Rasch measures at a fairly large mean like 50. Had the mean been closer to the number of points on the rating scale, such as 10, the regression coefficients might have been very small, perhaps too small to measure.

Four variables predicted the extent to which participants taught, and seven predicted the extent to which they partnered with other teachers. The regression models accounted for 46.7 percent of the variability for teaching and 67.6 percent

Table 19

Summary of Regression Analysis for Teaching (N=109)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	95% confidence interval	
					interval	
					Lower bound	Upper bound
Constant	26.096	3.192	--	.000	19.767	32.425
Actual program administrator	.302	.076	.349	.000	.151	.452
Actual instructional partner	.098	.040	.254	.016	.019	.177
Certified teacher	2.995	1.374	.188	.032	.270	5.720
Bachelor's degree other than library science or instructional technology	2.332	1.011	.169	.023	.328	4.336

Note. $R^2 = .466$

Table 20

Summary of Regression Analysis for Instructional Partnering (N=109)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>	95% Confidence Interval	
					Lower	Upper
					Bound	Bound
Constant	-23.638	15.269	--	.125	-53.927	6.651
Actual program administrator	.646	.155	.289	.000	.338	.955
Certified teacher	11.429	2.669	.278	.000	6.134	16.723
Ideal instructional partner	.229	.054	.254	.000	.122	.336
Actual teacher	.533	.191	.206	.006	.155	.912
Ideal information specialist	.195	.171	.066	.256	-.144	.534
Elementary	-5.132	2.094	-.144	.016	-9.286	-.978
Lack of funding for materials	-11.942	3.29	-.213	.000	-18.468	-5.415

Note. $R^2 = .676$

for instructional partnering. The regression model for teaching indicated that four characteristics of participants predicted the extent to which they taught: (a) whether or not they were certified as school library media specialists, (b) the extent to which they served as program administrator, (c) the extent to which they served as instructional partner, and (d) whether or not they held a bachelor's degree in a field other than library and information science or instructional technology. No characteristics of school or community and no potential barriers predicted participants' teaching.

The multiple coefficient of determination (R^2), shown in the notes of Tables 19 and 20, represents the fraction of the variance accounted for by the multiple regression model. The regression model for teaching accounts for less than 50 percent of the variability of the extent to which participants reported teaching. This suggests that there were additional variables not included in the study that accounted for a large amount of the variability in teaching. Other variables that might predict school library media specialists' teaching, but not considered in this study, include personality traits of the school library media specialist and variables related to classroom teachers and principals. All of these variables should be considered for future research.

The regression model for instructional partnering accounted for almost 68 percent of the variability of the extent to which library media specialists partnered with other teachers. This suggests that variables not included in the study contribute less to instructional partnering than to teaching, although there may be

variables in common, such as those listed with the discussion of the r-squared value for teaching.

It is typically not accepted to talk about one variable being a “better” predictor than another, because all variables included in a regression model contribute, sometimes more conceptually than numerically, so each variable must be considered individually, both statistically and conceptually in order to fully understand what it contributes to the model. Unstandardized regression coefficients are the actual values calculated for the regression models. Dividing the unstandardized regression models by the standard deviation standardizes them to make them easier to interpret. That is, a one standard deviation increase in the independent variable results in a change in the standard deviation of the dependent variable equal to the standardized regression coefficient.

For teaching, the largest standardized regression coefficient was program administration. As mentioned in Chapter 3, I was surprised to find that this variable was such a strong predictor of teaching because no discussion about program administration’s relationship with teaching or instructional partnering has been found in the literature. A discussion of the meaning of this new finding is located in Chapter 5.

The next lowest standardized regression coefficient was instructional partnering. It is logical that instructional partnering would be a strong predictor of teaching since the purpose of instructional partnering as envisioned by *Information Power* is to develop and execute an instructional unit with teaching shared by the school library media specialist and classroom teacher. This was

the first time during the data analysis for this study that I became aware of the strong relationship between school library media specialists' teaching and instructional partnering, first indicated by the high correlation between them as shown in Table 14. This relationship has been explored minimally, if at all, in the literature, and is discussed further in Chapter 5.

The fourth, final and weakest predictor of teaching included in the final regression model was participants' holding a bachelor's degree in a field other than library and information science or instructional technology. Although the questionnaire also asked participants whether they had a bachelor's degree in educational media, no participants selected this option, so it was not included in any discussion of bachelor's degrees in this dissertation. The questionnaire did not ask participants to specify their field of study if the bachelor's degree was in a field other than library and information science, educational media or instructional technology, so no further disaggregation by field of study is possible. Future research should collect this information to better understand the relationship between bachelor's degrees and school library media specialists' teaching.

The regression model for instructional partnering found that four variables representing participants' perceptions about their practice, one professional characteristic or participants, one school characteristic, and one barrier predicted the extent to which participants served as instructional partner. The participant perception predictors were (a) the extent to which participants preferred to serve as information specialist, (b) the extent to which participants preferred to serve as instructional partner, (c) the extent to which participants served as program

administrator, and (d) the extent to which participants served as teacher. The professional characteristic was whether participants were certified teachers. Whether participants worked at the elementary level negatively predicted instructional partnering, as did lack of funding for materials.

The only two predictors in common between teaching and instructional partnering were the extent to which participants reported serving as program administrator and certification as school library media specialist. They were the predictors in the instructional partnering model with the highest standardized regression coefficients. The fact that two predictors were shared between the two regression models is further evidence of the strong relationship between teaching and instructional partnering. However, the fact that there were some major differences between the models indicates that there are some key differences between teaching and instructional partnering, as well, that distinguish them, even as they are closely related. The interview data provided additional insights into how certification and serving as program administrator may have affected the implementation of the instructional partnering responsibility. This is discussed later in this chapter and in Chapter 5. Certification is discussed next, followed by interview results with respect to program administrators.

Considering certification and program administration with the next three predictors, in order of their standardized regression coefficients, preferred involvement as instructional partner, extent of teaching, and preferred involvement as information specialist, it becomes clear that most of the predictability of the extent to which participants served as instructional partner

can be found in whether the participant was a certified teacher, participants' perceptions about what their responsibilities should be, and how they have actually implemented those responsibilities. Two predictors of instructional partnering extrinsic to the school library media specialist were working in an elementary school and lack of funding for materials, both predicting decreased instructional partnering. The fact that grade level was found to be a predictor of instructional partnering but not teaching is a finding not discussed in previous literature and is discussed further in Chapter 5. Lack of funding for materials was a variable measured in questionnaire item cluster 7, barriers to teaching and instructional partnering.

As mentioned in Chapter 3 and with the discussion earlier in this chapter about the extent of school library media specialists' teaching and instructional partnering, nonresponse bias was a concern given the lower than expected response rate to the survey. I imputed responses to the questionnaire to better understand the potential effects of nonresponse bias, such as potential participants who may not have completed and returned a questionnaire because they do not teach or partner much. As with the hypothetical frequency distribution shown in Table 16, the purpose of this analysis was to model a worst-case scenario in which all of the nonrespondents might have taught and partnered at a minimal level.

While there are a number of often used procedures for imputing missing item-level data, the options for imputing entire missing surveys are limited, and all have negative consequences. A current method of imputation is to analyze

characteristics of waves of responses. Research has suggested that respondents who submitted their questionnaires later than others share many characteristics with nonrespondents. Wave analysis requires large enough response waves to be able to analyze the data and use it to predict characteristics of nonrespondents. In this study, the final two waves were very small, less than five responses each, so wave analysis was not a viable alternative.

Other imputation methods generally require statistics about the population to use multiple or logistic regression to predict how nonrespondents might have responded to the survey. Commonly used statistics in this type of analysis include gender, age, and educational attainment. The imputation uses such population variables to impute the responses for nonrespondents (Rao, Glickman, & Glynn, 1999). In this study, no data were available to estimate the extent of teaching and instructional partnering in the population, so these methods were not an option.

I decided to use a method similar to "Hot-Deck" imputation using all respondents to impute hypothetical responses for nonrespondents, and then ran the multiple regression analyses again using the actual and imputed data together in one data set. Using this method, the researcher selects data from random respondents to impute data for nonrespondents (Rao et al., 1999; Rubin, 1986).

I imputed response strings as if 30, 50, 70 and 100 percent of the nonrespondents had reported very low levels of teaching and instructional partnering, similar to the levels used in to create the hypothetical frequency

distribution shown in Table 16. In the analysis for teaching, I used the lowest Rasch measure among the actual data value for all imputed response strings for the extent of instructional partnering. This was logical since the purpose of the analysis was to estimate the effect of very low hypothetical responses for the dependent variable in the regression model. The rest of the response strings were the same as those of the randomly selected respondents. This controlled the variability of the independent variables to make the regression models with imputed data comparable to the models calculated from the raw data only. To impute 30 percent of nonrespondents, 30 percent of 88 nonrespondents, or 27, response strings were imputed and added to the data set, up to 100 percent, or 88 imputed response strings. This entire imputation process was repeated for the instructional partnering regression analysis.

Table 21

Summary of Imputed Regression Analysis for Teaching (N=197)

Variable	B	SE B	β	p
Constant	21.192	6.929	--	.003
Actual program administrator	.216	.165	.108	.192
Actual instructional partner	.138	.088	.155	.119
Certified teacher	3.556	3.031	.096	.242
Bachelor's degree other than library science or instructional technology	-10.306	2.300	-.321	.000

Note. $R^2 = .129$

Table 22

Summary of Regression Analysis for Instructional Partnering (N=136)

Variable	<i>B</i>	<i>SE B</i>	β	<i>p</i>
Constant	-27.142	26.179	--	.302
Actual program administrator	.545	.281	.179	.054
Certified teacher	8.081	4.505	.153	.075
Ideal instructional partner	.260	.094	.222	.006
Actual teacher	.246	.330	.073	.458
Ideal information specialist	.419	.290	.111	.151
Elementary	-1.467	3.550	-.032	.680
Lack of funding for materials	-11.619	5.719	-.159	.044

Note. $R^2 = .274$

Tables 21 and 22 show the regression model with the imputed data. For teaching (Table 21), the table for 100 percent of nonrespondents' imputed data is shown because the statistically significant results remained the same at 30, 50, 70 and 100 percent imputation. That is, the only variable that remained at all imputation levels a statistically significant predictor of teaching was the extent of instructional partnering. Interestingly, holding a bachelor's degree in other than library science or instructional technology became a statistically significant negative predictor of teaching, and was at 30, 50 and 70 percent imputation. It had been a positive predictor in the original regression model. No logical explanation for this change is apparent. The multiple coefficient of determination

was very low in the teaching model, suggesting that the model accounts for very little of the variability in teaching when the imputed data are added to the model.

For instructional partnering (Table 22), two variables remained statistically significant predictors at the 30 percent imputation level: the extent to which participants preferred to serve as instructional partner and lack of funding for materials. At all higher imputation percentages, no independent variables significantly predicted the extent of instructional partnering. The multiple coefficient of determination for instructional partnering, like teaching, was very low. Like the regression models using only the raw data, R^2 was higher for instructional partnering than for teaching.

Imputing data to estimate nonresponse bias indicates that nonresponse bias may have affected the results of the study. One variable, the extent of instructional partnering, appears to have predicted the extent of teaching regardless of how nonrespondents might have responded to the questionnaire. Two variables, the extent to which participants preferred to serve as instructional partner and lack of funding for materials, appears to have been a statistically significant predictors of instructional partnering, even with up to 30 percent of nonrespondents hypothetically reporting low levels of instructional partnering.

I was surprised to find that the number of school buildings in which participants worked, teaching experience, experience as a school library media specialist, and age were not significant predictors of school library media specialists' teaching and consulting. As one would expect, age correlated significantly with both teaching experience ($r = .321, p = .001$) and experience as

a school library media specialist ($r = .430, p = .000$). Interestingly, experience teaching significantly correlated with the extent of teaching ($r = .224, p = .021$) and the extent of instructional partnering ($r = .224, p = .021$), and experience as a school library media specialist correlated with the extent of teaching ($r = .222, p = .021$) and the extent of instructional partnering ($r = .206, p = .033$), but age did not. None of these variables were good predictors of teaching and partnering, however. It may be that other variables such as professional credentials are associated with older, more experienced library media specialists and that those variables were better predictors of teaching and instructional partnering than age or experience.

Interview Data

Ten participants all together were selected to be interviewed. Six participants were selected for interview because their Rasch-scaled responses regarding teaching and instructional partnering misfit the Rasch model. Of those six, three were selected randomly for mean squares for teaching and instructional partnering greater than 2.0 (participants 2805, 3157 and 4771) and three for mean squares less than .50 (participants 324, 4749, and 4802). In addition, three participants (1730, 2506, and 4917) were selected randomly from the group of participants whose mean squares were between .50 and 2.0 as a sort of control group of participants whose responses fit the model well. One interviewee from the well-fitting group had retired, so nine interviews were conducted. The criteria used to select the interviewees are shown in Table 23.

Table 23

Interviewee Selection Criteria

Part- icipant No.	Teaching				Instructional Partnering			
	Infit		Outfit		Infit		Outfit	
	Raw	mean	mean	mean	Raw	mean	mean	mean
	score	Meas.	sq.	sq.	score	Meas.	sq.	sq.
324	48	51.64	0.34	0.29	25	48.21	0.31	0.27
1730	51	53.05	0.65	0.75	37	61.23	0.56	0.48
2506	53	54.07	1.32	1.56	39	64.43	0.28	0.31
2805	43	49.48	0.96	0.90	19	41.5	2.03	1.75
3157	62	60.54	3.1	3.34	28	51.18	2.59	2.57
4749	41	48.66	0.35	0.41	21	43.94	0.63	0.44
4771	14	17.77	Min.	Min.	20	44.94	2.63	2.33
4802	32	44.95	0.46	0.44	23	46.15	0.29	0.25
4917	47	51.19	0.75	0.73	33	56.29	1.16	1.20

Note: Min. indicates that the measure is the lowest value in the data set, which WINSTEPS excludes when calculating fit statistics.

There were two purposes for conducting the interviews. The first was to determine whether some of the outlying participants were really outliers, or if there might be a defect with the questionnaire that caused some participants to appear to be outliers even if they were not. The second purpose was to provide some qualitative data to supplement the quantitative data collected through the survey to provide a more complete picture of school library media specialists' teaching and instructional partnering practice.

Demographic information for interviewees is shown in Table 24. Of the interviewees, only one was male and one worked in a non-public school. Seven out of nine held teaching certification, and five out of nine were certified as school library media specialists. Three had multilevel assignments, three were assigned only to middle schools, and two were assigned only to elementary schools. The only interviewees who worked at the high school level were two of the multilevel interviewees.

It is of interest that the three participants who were selected randomly because their responses to the questionnaire fit the Rasch model well were all certified school library media specialists and held teaching certification. Further, all three were assigned to only one grade level, and all worked in only one public school. This is further evidence that teaching certification is an important predictor of school library media specialists' teaching and instructional partnering. It also provides evidence that multilevel school library media specialists may be able to

Table 24

Interviewee Demographics

Participant number	Gen- der	Age	Teach. cert.	Cert. SLMS	Level	School type	No. schools
324	F	64	Y	N	E, M	Non- public	1
1730	F	56	Y	Y	M	Public	1
2506	M	28	Y	Y	E	Public	1
2805	F	47	Y	Missing	M, H	Public	1
3157	F	39	N	N	E, M	Public	1
4749	F	31	Y	Y	E	Public	4
4771	F	42	N	N	M, H	Public	1
4802	F	60	Y	Y	M	Public	2
4917	F	Miss- ing	Y	Y	M	Public	1

Note: SLMS = school library media specialist. Level: E = elementary, M = middle, H = high.

teach and partner more when they are assigned to only one grade level and one building.

Also of interest is what the interviewee demographics did not show. The range of interviewees' ages was 28 to 56, and the well-fitting group included the only man to be interviewed. This indicates that neither age nor gender appear to have impacted the extent to which school library media specialists' teach and partner with other teachers, as demonstrated by those two variables not appearing in the regression models for teaching and instructional partnering.

Seven interviewees reported that they felt that their teachers understood their teaching and partnering responsibilities, but several qualified their responses. Participant 324 said that teachers "sometimes understand" her responsibilities. The joint public/school librarian, participant 2805 said her teachers had "minimal" understanding of her role. Participant 3157 said teachers were "too busy" to partner with her. Participants 4749 and 4771 reported that their teachers understood their teaching responsibility, but not their partnering responsibility. Finally, participant 4917 reported that most of her teachers understood her responsibilities, but some were reluctant to share control of their classrooms with her. Of the two interviewees who did not feel that their teachers understood their responsibilities, participant 2805, who worked in four buildings, said that the level of understanding by teachers varied greatly by building and was dependent on the attitude of the administrator.

As with teaching, the two interviewees without teaching certification, 3157 and 4771, reported feeling unprepared to partner. Only participant 324 reported feeling prepared to teach but unprepared to partner. She had been a classroom teacher with no education in library science who was placed in charge of the library media program by her principal. She reported that she wished she had earned a master's degree in library science to feel prepared to partner with other teachers. Participant 3157 said her teaching degree was too old to be useful for teaching reported feeling adequately prepared to partner with teachers. Participant 4749 felt adequately prepared to teach felt that on-the-job training more than her degree had prepared her to partner with teachers. Four interviewees (2506, 4749, 4802, and 4917) reported feeling adequately prepared to partner, the same as felt prepared to teach.

It was apparent from the survey's finding of a significant relationship between teaching certification and type of bachelor's degree with teaching that professional preparation was an important factor in school library media specialists' involvement in teaching. Therefore, I included a question in the interviews about this relationship. Five out of the nine interviewees reported that they felt adequately prepared to teach. The two participants who had no educational training were the joint public/school librarian (2805) and a paraprofessional (4771) who was solely responsible for a middle/high school library program in one building. Both reported that their educational backgrounds were not sufficient to be able to teach effectively. Two participants (1730 and 3157) reported that their degrees were too old to be relevant with respect to

teaching today. Two participants (1730 and 4749) reported that they did not have sufficient access to professional development to keep up with changes in teaching methods.

I found it very interesting that, when asked about their teaching, nearly all of the interviewees, with the exception of the three participants not certified as school library media specialists (324, 3157 and 4771) talked about instructional partnering more than teaching. When prompted to think about instructional partnering further, none was able to add anything substantial about instructional partnering. This suggests that, in many library media specialists' minds, teaching and instructional partnering are closely related and supports the survey results, which indicated the same thing.

The interview data indicated that the outlying participants (all except 1730, 2506 and 4917) do face various challenges with respect to practicing the teaching and instructional partnering responsibilities. Several, in particular, reported issues with certification, either not holding it or certification that was too old to be relevant, as being a challenge to teaching or instructional partnering. This supports the finding of the regression models that teaching certification is important to both teaching and instructional partnering. Lack of teacher understanding of school library media specialists' responsibilities was of more concern to interviewees than lack of administrator understanding.

I also asked interviewees about potential barriers to their teaching and instructional partnering. The interviewees offered several of the same barriers as collected through the questionnaire as reasons for not teaching or partnering

more, and a very few new barriers were offered. Three out of the nine interviewees (1730, 2805 and 4802) cited lack of paraprofessional library media staff as a barrier to teaching and instructional partnering. Three reported lack of professional library media staff as preventing them from teach and partnering with teachers more (324, 3157 and 4749). The other barriers cited that were not included in questionnaire item cluster 7 were lack of interest on the part of teachers ($n = 4$), non-library media responsibilities ($n = 2$), and teachers who were too busy to partner with the library media specialist ($n = 2$).

Since administrator support of the library media program had been shown in previous research to correlate with increased teaching and instructional partnering, I asked interviewees about both administrator and teacher understanding of interviewees' teaching and partnering responsibilities. In this study, teacher and administrator understanding were operationalized as barriers. All nine interviewees felt that their administrators at least partly supported their teaching and instructional partnering. One (2805) reported minimal support from her administrator, although she was a joint public and school librarian and had little interaction with the schools for which she was responsible. The other three interviewees (3157, 4749 and 4802) who reported working in more than one school reported very different levels of support among the administrators in their various buildings.

The interviewees provided additional information about barriers that both supported the survey data and offered some additional barriers that the questionnaire did not collect. The interviews also added some nuance to the

results of the survey, particularly with respect to the complex relationships between teachers, administrators and school library media specialists.

The strong presence of program administrator in this model was evidence that program administration is an important predictor of school library media specialists' teaching and partnering and warrants further research. The interviewees were asked about their program administration. One interviewee (324), who had no staff and worked in a very small school, reported spending no time on program administration. The four interviewees who worked in more than one school reported spending the most time on program administration. Two interviewees worked in four schools and reported spending 50 and 65 percent of their time administering their programs, primarily in supervising the full-time paraprofessionals who worked in their library media centers. One interviewee worked in three buildings and reported spending 25 percent of her time on program administration. One interviewee who worked in two buildings spent 10 percent of her time administering her program. The other four interviewees worked in only one building each. One reported that program administration ranked second only to teaching in the amount of time she spent, although she didn't specify what proportion of her time that was. One only talked about supervising parent volunteers as program administration and didn't specify what proportion of his time that consumed. The remaining two interviewees reported spending about 20 and 25 percent of their time administering their programs.

The interview data indicate that program administration is an essential responsibility of school library media specialists, particularly for those who work

in more than one building. It appears that the more buildings to which a school library media specialist is assigned, the more time they spend on program administration. This is logical as more buildings require more management of budget and staff. These results also support the finding of the survey that program administration is a statistically significant predictor of school library media specialists' teaching and instructional partnering.

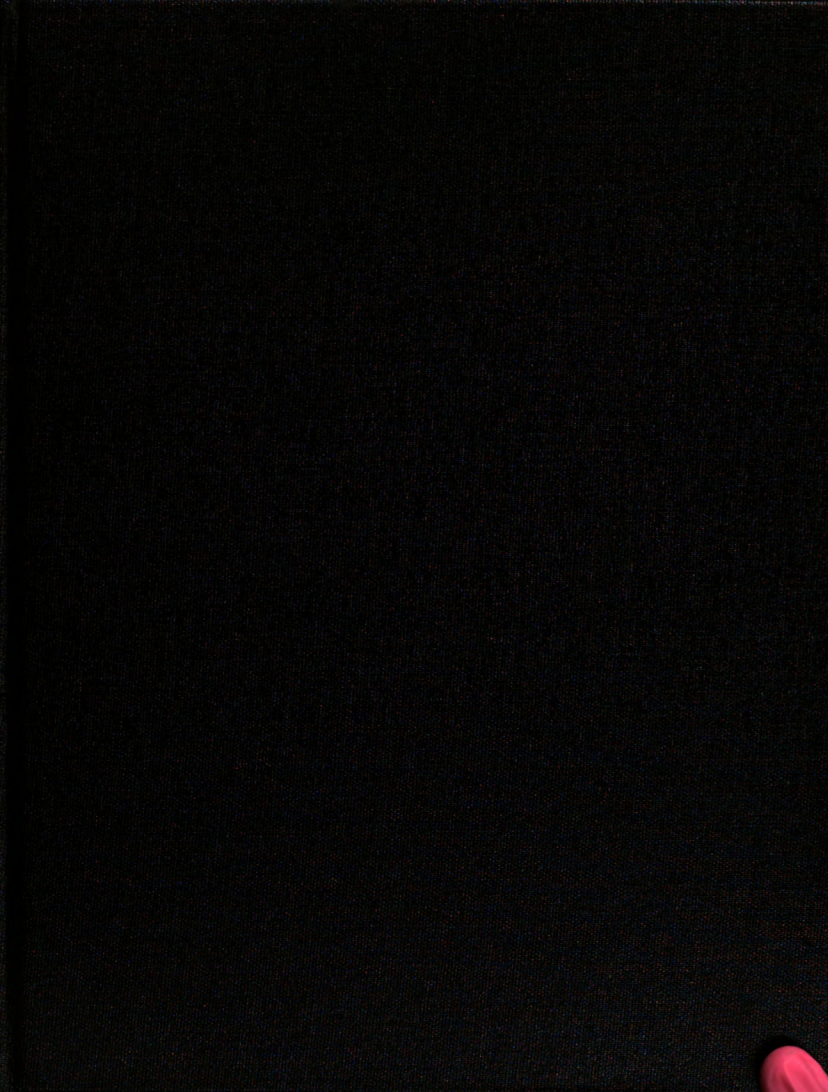
Conclusion

The study design produced statistically significant results using the raw questionnaire data that offered answers to all five research questions. Frequency distributions of participants' Rasch-scaled responses found the extent to which Michigan school library media specialists teach and partner with classroom teachers. Two multiple regression models found several independent variables that predict the extent to which Michigan school library media specialist teach and partner. With two exceptions, all of those variables were characteristics of the participants themselves. Estimates of nonresponse bias using imputed data indicated that not all of these results may be reliable due to the possibility of nonresponse bias. The results certainly cannot be generalized beyond Michigan. Chapter 5 discusses the results more fully in relation to previous research, the limitations of the study, and offers implications for future research.

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**THE ROLE OF THE SCHOOL LIBRARY MEDIA SPECIALIST IN MICHIGAN:
STATEWIDE SURVEY OF PRACTICES AND PERCEPTIONS**

VOLUME II

By

Erik D. Drake

A DISSERTATION

**Submitted to
Michigan State University
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DOCTOR OF PHILOSOPHY

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CHAPTER 5

DISCUSSION AND IMPLICATIONS FOR FURTHER RESEARCH

The results of this study validate some previous research, refute other research, and tell us some new things about the teaching and instructional partnering practice of school library media specialists. Specifically, this study contributes to the literature through its findings, as well as methodologically. The new findings included (a) estimating the amount of teaching and instructional partnering conducted by Michigan school library media specialists, (b) identifying predictors of Michigan school library media specialists' teaching and instructional partnering, (c) estimating the size of the population of Michigan school library media specialists.

Methodologically, the study contributes to the literature by (a) using Rasch scaling to transform rating scale data into continuous variables suitable for regression analysis, perhaps for the first time in school library media research, (b) using a questionnaire designed around specific, literature-based activities that operationalized no more than one variable, unlike most previous studies that used general, theoretical questionnaire items that often operationalized more than one variable, (c) including school library media specialists of all types, regardless of professional qualification or school type in the sample, (d) using multiple regression analysis to develop a more sophisticated understanding of the relationships between many independent variables and school library media specialists' teaching and instructional partnering, (e) identifying statistical relationships between many potential barriers to teaching and instructional

partnering and the extent to which school library media specialists teach and partner, unlike most previous research, which had only asked participants to report barriers, and (f) attempting to uncover the variables underlying the frequently reported lack of time as a reason that school library media specialists do not teach or partner more. This is also one of the first studies to focus on characteristics of the school library media specialist as the key to more teaching and instructional partnering, rather than on characteristics of the school.

Because the study sample included only Michigan school library media specialists, the results are not generalizable outside Michigan. However, since this study does validate some previous research conducted in other regions, the body of literature on school library media specialists' teaching and instructional partnering is beginning to yield key results that seem to be valid at the national level. The results are further limited to public school library media specialists because too few non-public school and public school academy library media specialists were included in the sample to be able to analyze any differences in the findings by school type. Further the possibility of nonresponse bias may limit the generalizability of the study.

This study was designed to answer five research questions, each inquiring about Michigan school library media specialists' teaching and instructional partnering practice, as defined by *Information Power*. Research question 1 asked about the extent to which school library media specialists have implemented teaching and instructional partnering. Research questions 2, 3 and 4 asked about variables that predict school library media specialists' teaching and instructional

partnering, and research question 5 asked about possible barriers to teaching and instructional partnering.

Although teaching and instructional partnering are very closely related, as will be discussed in detail later in this chapter, the study data showed that there were some key differences in the ways that Michigan school library media specialists implemented and practiced those responsibilities. In order to compare and contrast them more clearly, this chapter discusses all of the study's results with respect to teaching first, then instructional partnering, followed by a discussion of the relationships between them.

Teaching

In response to research question 1, the frequency distribution of participants' responses to the questionnaire indicated that more than 70 percent of Michigan school library media specialists teach, although they many have insufficient resources to be able to teach to the extent that they would like. More than one quarter reported that they do not teach at all. Because of the possibility of nonresponse bias, I created an adjusted frequency distribution for both teaching and instructional partnering based on varying levels of hypothetical responses by nonrespondents. The results of that analysis indicated that nonresponse bias could mean that as few as about 40 percent of Michigan school library media specialists teach. The actual percentage likely lies between 40 and 70 percent. These results support the work of Ervin, who found that 63.4

percent of South Carolina school library media specialists reported teaching and partnering on an occasional or regular basis.

Research questions 2 through 4 were partly answered with a regression model to predict participants' teaching. The study found that several variables predicted the extent of school library media specialists' teaching. They were (a) whether they were certified teachers, (b) the extent to which they served as program administrator, (c) the extent to which they served as instructional partner, and (d) whether they held a bachelor's degree in a field other than library and information science or educational media. Interestingly, all of these variables are characteristics of the library media specialist, not characteristics of school, community or the library media specialist's perceptions of their work. This was an important finding in that it indicates that some of the most important qualities that predict the extent to which a school library media specialist teach are found within the person, not in the educational environment. Analysis of nonresponse bias indicated that only the extent to which participants served as instructional partner was a significant predictor of the extent of teaching when nonrespondents were assumed to have low Rasch measures for teaching.

The finding that teaching certification predicted teaching was not surprising. It is logical that a certified teacher would be more likely to teach, particularly since one of the requirements for school library media specialist certification is teaching certification. This study provided empirical evidence to support school library media advocates' claim that a certified school library media specialist is essential to an effective school library media program. This study's

results refute, however, Van Deusen and Tallman, who found no significant difference in teaching between certified and non-certified participants.

The extent to which school library media specialists served in two other *Information Power* roles, program administrator and instructional partner, were not obvious as predictors of teaching. It would seem logical that a school library media specialist would have a fixed amount of time available to devote to the four *Information Power* responsibilities. The more time spent on one responsibility would result in less time available for another responsibility. The key to understanding this finding, it seems, was the fact that the extent to which participants served in the fourth *Information Power* responsibility, information specialist, was not found to predict the extent of teaching. This may indicate that school library media specialists who taught more delegated activities related to the information specialist responsibility to paraprofessionals, leaving the library media specialist more time to teach. This possibility was supported by the interview data, which indicated that participants who were responsible for more schools were more likely to delegate, particularly information specialist activities to paraprofessionals, to free their time to teach. No previous research has been found that has studied these relationships.

To manage others' work and leave time to teach requires a high level of administrative skill, which is one of the primary functions of the program administrator responsibility. This study did not collect the data necessary to explore further the relationship between program administration and teaching.. Additional research is necessary to understand this relationship more fully. The

relationship between instructional partnering and teaching is slightly more intuitive. An analysis of this relationship in the context of the results of this study will be presented later in this chapter.

The fourth predictor of school library media specialists' teaching, holding a bachelor's degree in a field other than library and information studies or instructional technology, was somewhat surprising. It seems unlikely that the nature of a school library media specialist's bachelor's degree would be such a strong predictor of teaching. When several historical trends are analyzed, however, the reason becomes clear. First, most, if not all, undergraduate programs in library science were phased out by the early 1990s in favor of graduate library programs because the entry level degree for librarians in all types of libraries became the master of library science (MLS). This was the result of accreditation requirements implemented by the American Library Association, the adoption of higher standards for credentials by libraries of all types, and the requirement by state departments of education of the MLS as a minimum requirement for certification as a school library media specialist. Undergraduate programs in library science tended to be based on older curricula that predated *Information Power*, and, therefore, placed less emphasis on teaching and instructional partnering.

Further, school library media specialists who hold a bachelor's degree in library science may be older than others in the profession, which may make them less likely to teach and partner. While holding a bachelor's degree in library science did not correlate significantly with age, it did correlate significantly with

experience as a school library media specialist ($r = .341, p = .000$). As a result, school library media specialists who hold a bachelors' degree in library science would likely teach and partner less than those who hold a bachelor's degree in another field. While several previous researchers studied the highest degree earned, none studied the type of bachelor's degree held by participants. Additional research may be necessary to validate this study's findings regarding type of bachelor's degree, although as school library media specialists with undergraduate degrees in library science continue to retire, this issue may become moot.

Research question 5 asked about barriers to school library media specialists' teaching. Although this study did not tell us exactly what might prevent school library media specialists from teaching more, some frequently reported barriers on the questionnaire included lack of teacher or administrator understanding of the teaching role, lack of professional or paraprofessional library media staff, and lack of funding for collections and for professional development. These barriers were reported with high frequency by participants, but were not predictive of teaching.

Lack of time has been reported frequently as a barrier to school library media specialists' teaching, including by Ervin. This study attempted to better understand the barriers that underlie lack of time. Likely possibilities included lack of professional staff and lack of paraprofessional staff. Both of those variables were included on the questionnaire, and neither predicted a decrease in teaching. Fixed scheduling, as studied by Van Deusen and Tallman,

McCracken, and Pickard, is not likely to underlie lack of time for teaching because fixed-scheduled library media specialists spend most or all of their time teaching. Another possibility mentioned infrequently in the literature was non-library media responsibilities, which was discussed by several interviewees in this study', as well as participants in McCarthy's study. This issue has not been fully explored in the literature, but certainly warrants further research.

The four variables that this study found to predict school library media specialists' teaching, while not necessarily intuitive, can be logically explained. While this study's data was insufficient to provide deeper understandings of their relationships with teaching, the study did provide a basis from which to conduct further research. The results of this study suggested that no single barrier or group of barriers accounts for enough of the variability in school library media specialists' teaching to predict to what extent they teach. Next is a discussion of the study's findings with respect to instructional partnering.

Instructional Partnering

In response to research question 1, the frequency distribution of participants' Rasch-scaled responses to the questionnaire indicated that approximately 57 percent of participants reported that they act as instructional partners, although most reported lacking the resources to do so adequately, and approximately 42 percent reported not partnering at all. As with teaching, a hypothetical frequency distribution for the extent of instructional partnering was created as a way to understand the potential effects of nonresponse bias. The

percentage of Michigan school library media specialists who reported partnering fell to 31.4 percent when 100 percent of the hypothetical responses of nonrespondents were assumed to include low raw scores for the extent of instructional partnering. As with teaching the actual number likely falls somewhere between the hypothetical 31.4 percent and the actual 57 percent. This is lower than Ervin's finding that 63.4 percent of South Carolina school library media specialists taught and partnered at least occasionally, but much higher than the results of Johnson, who found that only 23 percent of southern Illinois library media specialists were active partners and team players in curriculum and instruction.

Pickard found that fewer than half of DeKalb County, Georgia, school library media specialists practiced the instructional partner role to a great or very great extent, but that only five percent reported not practicing the instructional partner role at all. Jones found that Georgia school library media specialists were involved in the curriculum at a very low level. It is positive that more than half of Michigan school library media specialists, and perhaps as many as three-quarters, partnered with teachers at least occasionally. Much additional research is necessary to resolve the differences found by this study and previous literature in the extent to which school library media specialists have implemented the instructional partnering responsibility. It may simply be the result of studies conducted in specific regions, but additional answers are necessary to know for sure. Further, it is crucial that future research and professional development

efforts be directed to those buildings where partnering does not occur in order to provide more equitable services to students.

The finding that the extent to which school library media specialists teach is greater than the extent to which they partner is not surprising. Instructional partnering is a more complex, time-consuming process than teaching, and, therefore, practiced less by school library media specialists. The most likely explanation is fixed-scheduled school library media specialists must teach for much of the day leaving little time for instructional partnering. This evidence supports school library media advocates' claims that fixed scheduling is detrimental to the work of school library media specialists.

To answer research questions 2 through 4, the study found that several variables predicted the extent of school library media specialists' instructional partnering. They were (a) the extent to which participants preferred to serve as information specialist, (b) the extent to which participants preferred to serve as instructional partner, (c) the extent to which participants served as program administrator, (d) the extent to which participants served as teacher, and (e) whether participants were certified teachers. Whether participants worked at the elementary level negatively predicted instructional partnering, as did lack of funding for materials. Unlike teaching, which was predicted only by characteristics of the school library media specialist, the dependent variables that predict instructional partnering include school library media specialists' perceptions about their own practice, characteristics of the school library media

specialist, one school variable and one barrier. An analysis of these predictors follows.

The first two variables that predicted the extent to which school library media specialists serve as instructional partners were perceptions about their own practice. First was the preferred level of involvement as information specialist. That is, the more participants preferred to be involved as information specialist, the more they served as instructional partner. Second was the extent to which participants preferred to serve as instructional partner. While it is not difficult to understand that school library media specialists who prefer to serve as instructional partner do it, the relationship with the preferred involvement as information specialist is not so intuitive. When considered with the next predictor, involvement as program administrator, an explanation becomes apparent.

As with teaching, delegation of information specialist activities is necessary to allow time for instructional partnering. More involvement as program administrator may mean that school library media specialists are delegating those activities. It also may mean that, because they have delegated more of the information specialist responsibility than they might prefer, their preferred involvement as information specialist is stronger. The data collected in this study are insufficient to address these suggestions directly. Further research is necessary to better understand these complex relationships between the *Information Power* responsibilities of school library media specialists.

The fourth predictor of instructional partnering is the extent to which participants taught. This is not surprising since instructional partnering is also a

predictor of teaching. The fifth predictor, certification status, along with the extent to which participants served as program administrator, are the only two predictors shared by both teaching and instructional partnering. These relationships are further evidence of the strong relationship between teaching and partnering, which will be discussed in the next section of this chapter.

Whether a school library media specialist works in an elementary school was a negative predictor of instructional partnering. This was not surprising in that many elementary school library media centers operate on a fixed schedule, unlike most middle and high school library media centers, which generally operate on a flexible schedule. In many fixed-scheduled schools, the library media specialist's entire day is consumed with teaching classes with no classroom teacher present because the library media specialist is responsible for the class during the classroom teacher's preparation time. This leaves no time during the day that the library media specialist and teacher can partner. This finding supports previous research and the claims of school library media advocates that fixed scheduling impairs the ability of school library media specialists to partner with classroom teachers. This finding supports the results of Putnam and Van Deusen and Tallman who found lower incidences of instructional partnering among elementary school library media specialists and their counterparts at other grade levels.

The final predictor of instructional partnering was a barrier, lack of funding for materials. Lack of funding for materials negatively predicts instructional partnering. It was surprising that this barrier was so strongly predictive of

instructional partnering, particularly over other potential barriers that might represent lack of time. One logical explanation is that school library media specialists are less likely to partner because they do not want to waste their time and the time of classroom teachers planning for learning activities if they lack the collections needed for students to meet instructional objectives. This was not a barrier to teaching, perhaps because so many school library media specialists, particularly those on fixed schedules, are required to teach regardless of the suitability of collections to support teaching. One question raised and unanswered by this study is why was lack of funding for materials such a strong predictor, but none of the other variables were predictors? Further research is necessary to address these important issues.

The nonresponse bias analysis indicated that only two variables continued to significantly predict the extent of instructional partnering when the imputed responses of nonrespondents were added to the data set: the extent to which participants preferred to serve as instructional partner and lack of funding for materials, and only if 30 percent of nonrespondents were assumed to have low Rasch measures for instructional partnering. When 50 percent or more of nonrespondents' data were imputed, no variables were significantly predictive of instructional partnering.

It is clear that Michigan school library media specialists have developed strategies for implementing the instructional partner responsibility, although most lack the resources that they need to implement that responsibility as fully as they might prefer. Several variables predict the extent to which they partner with

classroom teachers, and two variables negatively predict instructional partnering. The regression model for instructional partnering provides further evidence that teaching and instructional partnering are very closely related, although there are some key differences. The relationship between school library media specialists' teaching and instructional partnering is discussed next.

Relationship between Teaching and Instructional Partnering

One of the key findings of the study is that school library media specialists' teaching and instructional partnering are very closely related, although there are important differences between them. This relationship first became clear to me during the interviews. Nearly all interviewees spoke extensively about partnering with teachers when they were asked questions about teaching. Very few indicated that they saw teaching and partnering as discrete processes. This section analyzes the relationship between school library media specialists' teaching and instructional partnering in the context of this study.

The interview responses supported the results of the survey data analysis. First, participants' teaching and instructional partnering were mutually and highly predictive. While teaching is a logical outcome of the partnering process, it seemed likely that school library media specialists taught frequently but partnered little, particularly those who operated on a fixed schedule. The study did not support this view. This study did not tell us about specific differences between the teaching and partnering practice of fixed- versus flexibly-scheduled

school library media specialists. Additional research is necessary to better understand these differences.

One indication of the close relationship between teaching and instructional partnering is the fact they share two predictors: certification and program administrator. However, the fact that these were the only two shared predictors did indicate that there were some differences in what might cause a school library media specialist to implement one of the responsibilities more fully than the other. The methods of this study were not appropriate to draw conclusions about the cause-and-effect relationships between the dependent and independent variables. Further research using experimental methods is necessary to draw such conclusions.

The construction of *Information Power* likely has created some confusion about the relationship between teaching and instructional partnering. Although the authors of *Information Power* made it clear that all aspects of school library media specialists' work are interconnected, it fails to emphasize the close relationship between teaching and instructional partnering, in particular. The fact that the two were described as separate processes may be somewhat misleading. The authors did have good reason to treat the two responsibilities separately, however. First, teaching and instructional partnering are complex processes, and describing them together would have resulted in a document even more difficult to grasp than it is now. Second, ideally, school library media specialist teaching would result from partnering with classroom teachers. In reality, much school library media specialist teaching occurs without partnering,

particularly in schools using fixed scheduling. Consequently, it was appropriate for the authors of *Information Power* to construct it as it is, but the relationship between teaching and partnering must be more fully discussed.

Implications for Future Research

The results of the study offer several implications for future research, both theoretical and methodological. Theoretical implications are discussed first, followed by methodological recommendations. The primary theoretical limitation of this study is that it was too broadly constructed to be able to answer specific questions about the variables underlying the predictors found through the regression models. For example, what is it about the program administrator role that makes it a predictor of both teaching and instructional partnering? Why is lack of funding for materials the only barrier that negatively predicts teaching or partnering, and why partnering but no teaching? Why were no barriers predictive of teaching? To what extent do school library media specialists teach as part of a lesson or unit that is the result of partnering with a classroom teacher? Future research is necessary to answer research questions about the variables underlying the predictor variables examined in this study.

Methodologically, the study design produced answers to the five research questions. However, the methods did limit the kinds of conclusions that can be drawn from the study. First, this study has not addressed the persistent problem of achieving results that can be generalized nationally, and, as such can only be generalized to Michigan school library media specialists. The primary cause of

this problem is the lack of a complete, accurate and relatively unbiased national sampling frame of school library media centers. The sampling method used in this survey may be replicable at the national level by drawing samples of schools from lists such as that produced by the National Center for Education Statistics, then doing a brief survey of sampled schools to determine how many and which have a staffed library media center, then drawing the sample from schools with a staffed library media center. Further research will be necessary to determine whether this procedure is feasible. If it is, it will assist school library media researchers conduct research with a much broader impact than has occurred in the past. Otherwise, future research will continue using regional samples to compare with previous research, or the use of incomplete national sampling frames will persist.

The strong relationship between teaching and instructional partnering suggests the use of multivariate methods for future research. I did not anticipate that such a strong relationship would exist, so the questionnaire and methods were not designed with multivariate analysis in mind. Multivariate methods may produce additional results that address some of the questions unanswered by this study.

One purpose of this study was to provide data on which to base future experimental research from which to draw conclusions about what might cause a school library media specialist to teach and partner more. The design of this study itself is insufficient to draw cause-and-effect conclusions. However, it did

accomplish the goal of finding predictors that could be used in future experimental research.

Conclusion

This mixed-methods study used survey and interview methods to collect data regarding Michigan school library media specialists' implementation of the *Information Power* teaching and instructional partnering responsibilities. The study found answers to all five research questions that were developed based on the findings of previous research, theoretical work, and my own professional experience as a former school library media specialist. The research questions asked about the extent to which Michigan school library media specialists have implemented the teaching and instructional partner responsibilities, what variables predict the implementation of those responsibilities, and what barriers prevent them from implementing those roles.

The study found that the majority of Michigan school library media specialists teach and partner with classroom teachers, although many lack the resources to do so to the extent that they prefer. Several characteristics and perceptions of school library media specialists were found to predict their teaching and instructional partnering, although teaching and partnering shared only two predictors in common. The study yielded no evidence that characteristics of a school's community predicted the extent to which school library media specialists taught and partnered with classroom teachers. Only one barrier was found to negatively predict instructional partnering.

The study further contributed to the literature methodologically. The study used Rasch scaling to make the rating scale data more suitable for multiple regression. The operationalization of variables as specific activities measuring no more than one variable made the results more reliable than that of previous studies. The study explored predictors of school library media specialists' teaching and instructional partnering for the first time. Barriers were measured with a rating scale to allow them to be tested as predictors. The reported barrier lack of time was disaggregated in attempt to understand what school library media specialists mean when they report not having enough time to teach and partner.

The results of the study represent a school library media profession in Michigan that is highly involved in teaching and learning. Michigan school library media specialists appear to have embraced the *Information Power* teaching and instructional partnering responsibilities and have delegated other tasks to make those responsibilities a priority. While the study raised many questions, it did answer those that it sought to answer.

The study paints a picture of Michigan's school library media profession that was not previously available. We now have data to help target resources and interventions to the school library media specialists who are most likely to benefit, and therefore increase their involvement in teaching and partnering. Further, the study affords opportunities for experimental research to help determine the cause-and-effect relationships that will help prove that school library media programs are essential to student learning. It is essential that additional research

be conducted to continue to develop our knowledge about the work of school library media specialist. The school library media profession knows that information is power. We must use that power to continue to strengthen our own role as expert teachers and learners.

APPENDICES

APPENDIX A

DEFINITIONS

As used in this study, key terms are defined as follows:

Instructional Partner Responsibility: Organized collaboration between school library media specialists and classroom teachers that involves the development of curriculum and instruction that integrates curriculum content standards and information skills standards. The collaboration begins with the planning for the lesson or unit, continues through instruction, the development of student products of learning, and assessment of both learning activities and the design and implementation of the lesson or unit.

Teaching Responsibility: Any instructional interaction between the school library media specialists and students, or similar activities conducted with teachers.

School Library Media Center (SLMC): The facilities used to house collections, equipment, staff, technology and instruction for the school library media program. The SLMC was previously known as the media center, and before that, the school library. All three phrases have been used in school library media literature and are considered interchangeable for the purposes of this study, although reflective of the era in which each term was used.

School Library Media Program: The organized activities and services that facilitate teaching and learning in schools using information resources in a variety of formats. The school library media program is usually housed in a school library media center and managed by one or more school library media specialists and their staff.

School Library Media Specialist (SLMS): The person or persons responsible for the day-to-day management of the school library media center and school library media program. Typically, a school library media specialist must be certified by the state, which usually requires teaching certification and a master's degree in library science. In many schools today, the person acting as a SLMS is not certified. In this dissertation, "school library media specialist" includes non-certified library media staff as long as they are responsible for the day-to-day operation of the school library media center and program and are not supervised at any time by a certified school library media specialist. School library media specialists were previously known as media specialists, and prior to that, school librarians. All three phrases have been used in school library media literature and are considered interchangeable for the purposes of this study, although reflective of the era in which each term was used.

APPENDIX B

QUESTIONNAIRE RECRUITMENT LETTER

Erik D. Drake, MLS

**Ph.D. Candidate, Learning, Technology and Culture
College of Education
Michigan State University**

**PO Box 27096
Lansing, MI 48909-7096
517-336-6718
drakeeri@msu.edu**

Dear Library Media Specialist:

I am writing to ask your help in a study of the responsibilities of school library media specialists in Michigan schools. This data is being collected for the Responsibility of the School Library Media Specialist in Michigan survey, which is being conducted during the 2004-05 school year as part of my doctoral dissertation work.

It's my understanding that you are a school library media specialist in Michigan. I am contacting a random sample of Michigan school library media specialists from every region of the state to ask about the important responsibilities that they play in their schools.

I expect that the results of the study will be published in professional journals and presented at conferences to help inform school administrators, educators of school library media specialists, policymakers and others about the important work of school library media specialists.

This study is generously funded, in part, by a grant from the Michigan Association for Media in Education.

Anyone who is responsible for managing a Michigan K-12 school library media center is encouraged to participate in the study. Librarians in joint public and school libraries are eligible to participate. However, staff who are supervised by a school library media specialist should not complete the questionnaire. The library media specialist should complete it, instead. Please complete the questionnaire only one time, even if you work in multiple schools.

The questionnaire takes approximately 25 minutes to complete.

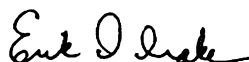
Participation in the study is completely voluntary. If you wish to participate in the study, please read, sign and date the consent form on the inside front cover of the questionnaire. Responses with unsigned consent forms cannot be included in the study.

Completed questionnaires should be mailed back using the enclosed self-addressed stamped envelope. If the envelope is missing, I would appreciate it if you would mail it to me using the address above.

I have enclosed a small token of appreciation as a way of saying thanks for your help.

Thank you very much for helping with this important study.

Sincerely,



Erik D. Drake

P.S. If by some chance you are not eligible to participate based on the guidelines in this letter, please share the questionnaire with the person in your school who is. Or, please answer the first two questions in the questionnaire and return the rest of it blank. Many thanks!

APPENDIX C
QUESTIONNAIRE



The Role of the School Library Media Specialist in Michigan

**Statewide survey of
practices and perceptions**



Erik D. Drake, MLS
Study Coordinator

Ph.D. Candidate, Learning, Technology and Culture
College of Education
Michigan State University

April 2005

Role of the School Library Media Specialist in Michigan Participant Consent Form

Completion of this questionnaire and all individual response items is voluntary. You may choose not to participate in the study at all, or you may refuse to participate in certain procedures or answer certain questions or discontinue your participation at any time without penalty or loss of benefits.

Any identifying information will be kept confidential. Your privacy will be protected to the maximum extent allowable by law. Questionnaires are numbered solely to thank respondents and allow follow-up contacts with non-respondents. All identifying information will be destroyed upon completion of data collection.

The enclosed token of appreciation is yours to keep whether you choose to participate in the study or not.

Please address questions about the study to the researcher using the contact information on the previous page.

If you have any questions about this study, please contact the study coordinator or the chair of his dissertation committee:

Erik D. Drake, Study Coordinator
PO Box 27096
Lansing, MI 48909-7096

drakeeri@msu.edu
(517) 336-6718

Dr. Raven McCrory, Dissertation Committee Chair
513G Erickson Hall
Michigan State University
East Lansing, MI 48824-1034
mccrory@msu.edu
(517) 353-9272

Finally, if you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact, anonymously, if you wish:

Peter Vasilenko, Ph.D.
Chair of the University Committee on Research Involving Human Subjects (UCRIHS)
202 Olds Hall
Michigan State University
E. Lansing, MI 48824
Phone (517) 355-2180, Fax (517) 432-4503
ucrihs@msu.edu

Thank you, again, for participating in the study.

If you consent to participating in this study, please sign your name and date below. Responses with incomplete consent forms cannot be included in the study.

Signature

Date

Printed Name

Thank you for taking the time to participate in
**The Role of the
School Library Media Specialist in Michigan
study!**

Please mail back by June 17, 2005

The following two questions determine your eligibility to participate in the study.

1. Which grade level most closely
matches where you work? (Circle all that
apply)

Pre-K-2 3-5 6-8 9-12 N/A

*If you answered N/A, it is not necessary for you to complete the remainder
of this questionnaire. However, please return it so that you will not receive
any future mailings regarding this survey.*



2. In what type of school do you work?
(Circle ONE)

Public PSA/
Charter Non-Public Other

*If you answered Other, it is not necessary for you to complete the remainder
of this questionnaire. However, please return it so that you will not receive
any future mailings regarding this survey.*



You have completed section one and are
eligible to continue! **Please verify that you have
signed the consent form on the previous page
before continuing.** Survey questions continue on
the next page.

3. The following group of questions deals with your role as information specialist.

Imagine your ideal level of staffing in your school. Assume a sufficient number of WELL-TRAINED staff, including paraprofessionals and student and adult volunteers. How involved would you be in the following activities?

Circle the ONE response for each item that most closely matches your preferred level of involvement.

	Not a library media responsibility	Delegate to aide with minimal supervision	Delegate to aide with close supervision	Library Media Specialist responsibility
Library Media Specialist as Information Specialist: Ideal Staffing				
Selects materials for purchase	N	MS	FS	L
Selects instructional software for classroom use	N	MS	FS	L
Selects software for administrative use	N	MS	FS	L
Schedules teachers' use of audiovisual equipment	N	MS	FS	L
Delivers audiovisual equipment to classrooms	N	MS	FS	L
Repairs audiovisual equipment	N	MS	FS	L
Acquires materials (e.g., issue purchase order, track order)	N	MS	FS	L
Uses interlibrary loan to borrow materials for students	N	MS	FS	L
Catalogs materials using original cataloging	N	MS	FS	L
Catalogs materials using existing cataloging from other sources	N	MS	FS	L
Processes materials (e.g., adding barcode, label, jacket cover)	N	MS	FS	L
Maintains a permanent archive of periodicals (i.e., does not discard back issues of at least some titles)	N	MS	FS	L
Checks out materials to students and teachers	N	MS	FS	L
Shelves materials after use	N	MS	FS	L
Inventories collections	N	MS	FS	L
Conducts book talks and/or story times for students	N	MS	FS	L
Answers reference questions (e.g., "Where can I find information about cars?")	N	MS	FS	L
Answers informational questions that are NOT reference questions (e.g., "May I have a rest room pass?", "When does the period end?")	N	MS	FS	L
Creates displays of materials for special events such as holidays	N	MS	FS	L
Gathers materials spontaneously when a class arrives with no advance planning	N	MS	FS	L
Gathers materials for classes to use in advance of a class project	N	MS	FS	L

4. The following group of questions deals with your role as information specialist.

Think about the current level of staffing in your school. How involved are you in the following activities?

Circle the ONE response for each item that most closely matches your CURRENT level of involvement.

	Not a library media responsibility	Delegate to aide with minimal supervision	Delegate to aide with close supervision	Library Media Specialist responsibility
Library Media Specialist as Information Specialist: Current Staffing				
Selects materials for purchase	N	MS	FS	L
Selects instructional software for classroom use	N	MS	FS	L
Selects software for administrative use	N	MS	FS	L
Schedules teachers' use of audiovisual equipment	N	MS	FS	L
Delivers audiovisual equipment to classrooms	N	MS	FS	L
Repairs audiovisual equipment	N	MS	FS	L
Acquires materials (e.g., issue purchase order, track order)	N	MS	FS	L
Uses interlibrary loan to borrow materials for students	N	MS	FS	L
Catalogs materials using original cataloging	N	MS	FS	L
Catalogs materials using existing cataloging from other sources	N	MS	FS	L
Processes materials (e.g., adding barcode, label, jacket cover)	N	MS	FS	L
Maintains a permanent archive of periodicals (i.e., does not discard back issues of at least some titles)	N	MS	FS	L
Checks out materials to students and teachers	N	MS	FS	L
Shelves materials after use	N	MS	FS	L
Inventories collections	N	MS	FS	L
Conducts book talks and/or story times for students	N	MS	FS	L
Answers reference questions (e.g., "Where can I find information about cars?")	N	MS	FS	L
Answers informational questions that are NOT reference questions (e.g., "May I have a rest room pass?", "When does the period end?")	N	MS	FS	L
Creates displays of materials for special events such as holidays	N	MS	FS	L
Gathers materials spontaneously when a class arrives with no advance planning	N	MS	FS	L
Gathers materials for classes to use in advance of a class project	N	MS	FS	L

5. The following group of questions deals with your attitudes toward the diverse roles of the school library media specialist.

In a school with an ideal amount of resources (financial, staffing, materials, facilities, teacher and administrator support, etc.), how important would it be for the library media specialist personally to carry out the following activities?

Please circle the **ONE** response for each item that most closely matches your **attitude** toward the importance of your involvement in each of the following roles.

	Not familiar with this role	Not Important	Somewhat Important	Very Important
Library Media Specialist as Program Administrator: Ideal School				
Supervises library media paraprofessionals and/or volunteers	NF	N	S	V
Administers library media program budget	NF	N	S	V
Distributes promotional materials about the library media program to school staff	NF	N	S	V
Distributes promotional materials about the library media program to students	NF	N	S	V
Submits periodically a written report about the library media program to school administrator	NF	N	S	V
Presents statistics about library media center usage in numeric or graphical format to school administrator (can be part of a report, newsletter or other publication)	NF	N	S	V
Conducts presentations about the library media program for the school board or similar governing body	NF	N	S	V
Develops strong professional relationships with administrators within school(s)	NF	N	S	V
Develops strong professional relationships with school district administrators	NF	N	S	V
Administers school computer network	NF	N	S	V
Administers computer network user accounts and/or passwords	NF	N	S	V
Supervises computer lab that is part of library media center	NF	N	S	V
Supervises computer lab that is <u>not</u> part of library media center	NF	N	S	V

Library Media Specialist as Teacher of Information Skills: Ideal School

Uses an information skills curriculum	NF	N	S	V
Uses flexible schedule (students visit library media center as needed)	NF	N	S	V
Uses fixed schedule (classes visit library media center at scheduled times, generally without the classroom teacher)	NF	N	S	V
Integrates information skills with subject matter content	NF	N	S	V
Uses an information search model (e.g., Big 6, REACTS, Kuhlthau) when teaching information skills	NF	N	S	V
Serves as computer lab teacher	NF	N	S	V
Serves as computer trainer for school staff	NF	N	S	V
Serves as the only teacher for one or more classes	NF	N	S	V
Teaches in such a way that students synthesize information from multiple sources when working on projects	NF	N	S	V
Teaches in such a way that students discover information rather than being told what to find	NF	N	S	V
Assesses students using methods authentic to the task	NF	N	S	V
Develops lessons that encourage students to use higher-order thinking skills like evaluation and synthesis	NF	N	S	V
Develops lessons that encourage students to use critical thinking skills	NF	N	S	V
Allows students to choose research topics	NF	N	S	V

Library Media Specialist as Instructional Partner: Ideal School

Plans informally and briefly with teachers for research projects (e.g., in passing in the hallway)	NF	N	S	V
Collaborates formally with teachers to plan lessons	NF	N	S	V
Team teaches with classroom teachers	NF	N	S	V
Participates in assessing student work	NF	N	S	V
Evaluates the instructional process with the collaborating teacher	NF	N	S	V
Participates in instruction at all stages, from planning to evaluation	NF	N	S	V
Participates in teaching units where the entire unit content depends on library media center materials and activities	NF	N	S	V
Participates informally in the planning and development of the curriculum	NF	N	S	V
Serves as a member of at least one curriculum committee or other formal curriculum planning body	NF	N	S	V

6. The following group of questions deals with your attitudes toward the diverse roles of the school library media specialist.

Given the resources currently available in your school, how able are you to complete successfully the following activities?

Please circle the **ONE** response for each item that most closely matches your **ability to complete successfully the following activities**.

	Not part of my responsibility	Unable to accomplish	Insufficient resources, activity impaired	Insufficient resources, but activity completed satisfactorily	Adequate resources available for this activity
Library Media Specialist as Program Administrator: Current School					
Supervises library media paraprofessionals and/or volunteers	N	U	I	S	A
Administers library media program budget	N	U	I	S	A
Distributes promotional materials about the library media program to school staff	N	U	I	S	A
Distributes promotional materials about the library media program to students	N	U	I	S	A
Submits periodically a written report about the library media program to school administrator	N	U	I	S	A
Presents statistics about library media center usage in numeric or graphical format to school administrator (can be part of a report, newsletter or other publication)	N	U	I	S	A
Conducts presentations about the library media program for the school board or similar governing body	N	U	I	S	A
Develops strong professional relationships with administrators within school(s)	N	U	I	S	A
Develops strong professional relationships with school district administrators	N	U	I	S	A
Administers school computer network	N	U	I	S	A
Administers computer network user accounts and/or passwords	N	U	I	S	A
Supervises computer lab that is part of library media center	N	U	I	S	A
Supervises computer lab that is not part of library media center	N	U	I	S	A

Library Media Specialist as Teacher of Information Skills: Current School

Uses an information skills curriculum	N	U	I	S	A
Uses flexible schedule (students visit library media center as needed)	N	U	I	S	A
Uses fixed schedule (classes visit library media center at scheduled times, generally without the classroom teacher)	N	U	I	S	A
Integrates information skills with subject matter content	N	U	I	S	A
Uses an information search model (e.g., Big 6, REACTS, Kuhlthau) when teaching information skills	N	U	I	S	A
Serves as computer lab teacher	N	U	I	S	A
Serves as computer trainer for school staff	N	U	I	S	A
Serves as the only teacher for one or more classes	N	U	I	S	A
Teaches in such a way that students synthesize information from multiple sources when working on projects	N	U	I	S	A
Teaches in such a way that students discover information rather than being told what to find	N	U	I	S	A
Assesses students using methods authentic to the task	N	U	I	S	A
Develops lessons that encourage students to use higher-order thinking skills like evaluation and synthesis	N	U	I	S	A
Develops lessons that encourage students to use critical thinking skills	N	U	I	S	A
Allows students to choose research topics	N	U	I	S	A

Library Media Specialist as Instructional Partner: Current School

Plans informally and briefly with teachers for research projects (e.g., in passing in the hallway)	N	U	I	S	A
Collaborates formally with teachers to plan lessons	N	U	I	S	A
Team teaches with classroom teachers	N	U	I	S	A
Participates in assessing student work	N	U	I	S	A
Evaluates the instructional process with the collaborating teacher	N	U	I	S	A
Participates in instruction at all stages, from planning to evaluation	N	U	I	S	A
Participates in teaching units where the entire unit content depends on library media center materials and activities	N	U	I	S	A
Participates informally in the planning and development of the curriculum	N	U	I	S	A
Serves as a member of at least one curriculum committee or other formal curriculum planning body	N	U	I	S	A

7. Barriers

How much do the following factors prevent you from reaching your full potential as a library media specialist?

Please circle the **ONE** response for each item that most closely matches the **LEVEL AT WHICH EACH BARRIER AFFECTS YOUR ABILITY TO MEET YOUR PROFESSIONAL GOALS.**

	Not a barrier	Minor barrier	Difficult barrier	Serious barrier
Lack of money for materials	N	M	D	S
Lack of professional library media staff in building	N	M	D	S
Lack of professional library media staff in district	N	M	D	S
Lack of paraprofessional library media staff in building	N	M	D	S
Lack of teacher understanding of library media specialist roles	N	M	D	S
Lack of administrator understanding of library media specialist roles	N	M	D	S
Lack of district level library media administrator	N	M	D	S
Lack of money for professional development	N	M	D	S
Lack of availability of professional development	N	M	D	S
Lack of adequate facilities	N	M	D	S
Lack of technology	N	M	D	S
Other (Please specify):	N	M	D	S

8. Demographics

In how many school buildings do you work? _____

What is the ZIP code of the school building in which you work? _____

If you work in multiple buildings, use one of the following to select a ZIP code:

The building in which you spend the most time

The building that represents the largest number of students that you serve

The ZIP code of your school district's central office

What type of class scheduling is used in your school?
(Circle ONE)

Block Other Not Sure

*If you work in more than one school, choose the
schedule that is most commonly used in your schools*

How long have you been a library media specialist? _____ years

How much teaching experience do you have, NOT
INCLUDING years as library media specialist? _____ years

Year earned:

Year earned:

Yes No Not Sure

Yes No Not Sure

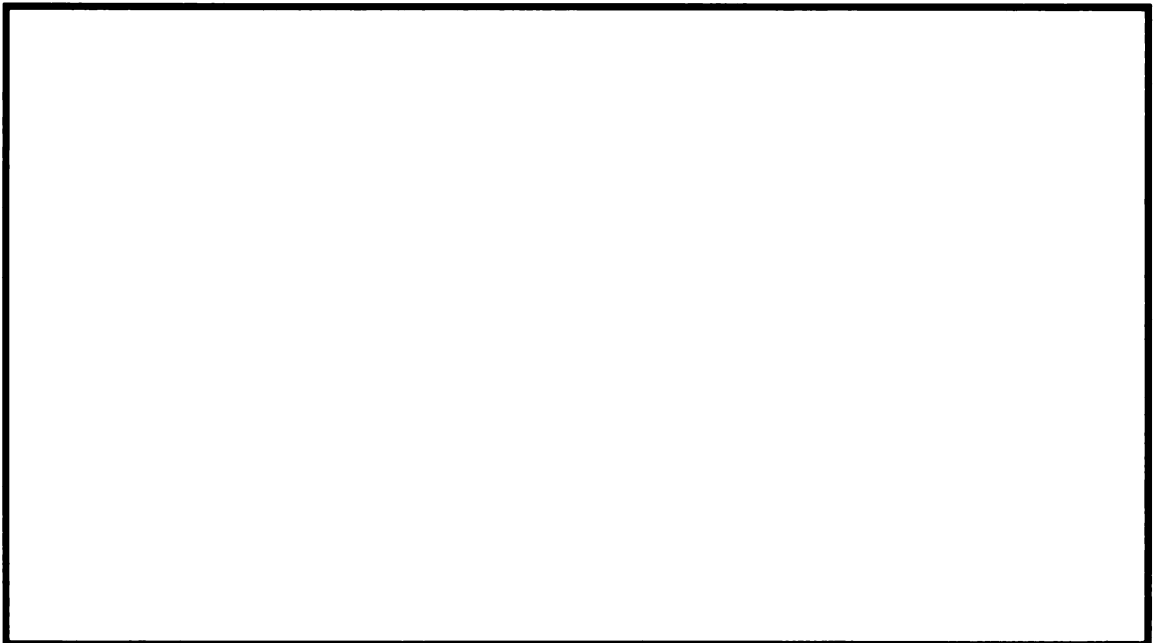
Female Male

years

	Not currently involved	Attended event as non-member within the past year, but not otherwise involved	Current member, but have not attended event in last year and not otherwise involved	Attended event as member within the past year, but not otherwise involved	Served on committee or other position within the past year
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Michigan Association for Media in Education (MAME)	N	AN	M	AM	S
Michigan Association for Computer Use in Learning (MACUL)	N	AN	M	AM	S
Michigan Library Association (MLA)	N	AN	M	AM	S
American Association of School Librarians (AASL)	N	AN	M	AM	S
Young Adult Library Services Association (YALSA)	N	AN	M	AM	S
Association for Library Service to Children (ALSC)	N	AN	M	AM	S
International Society for Technology in Education (ISTE)	N	AN	M	AM	S

Thank you for taking the time to complete this questionnaire. Please mail it back by June 17, 2005. Your assistance in providing this information is very much appreciated. If you have any feedback about this survey, please do so in the space provided below, or contact the study coordinator at the address below.

A large, empty rectangular box with a black border, intended for providing feedback about the survey.

Please return your completed questionnaire in the envelope provided to:

Erik D. Drake
PO Box 27096
Lansing, MI 48909-7096
517-336-6718
drakeeri@msu.edu

APPENDIX D

SURVEY POSTCARD REMINDER

May 24, 2005

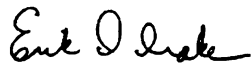
Last week, a questionnaire about the responsibility of the school library media specialist in your school was mailed to you. Your school was drawn randomly from a list of all schools in Michigan.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so today. If you are a volunteer or paraprofessional not supervised by a school library media specialist, you are welcome to complete the questionnaire. It is important that schools with all types of staffing be represented in the survey.

If your school does not have a library media center, please note this on the back page of the questionnaire and return it so that you will not receive further mailings.

I am especially grateful for your help because it is only by asking people like you to share your experiences that we can help improve services to school library media specialists.

If you did not receive a questionnaire, please call 517-336-6718 or e-mail drakeeri@msu.edu, and I will get another one in the mail to you today.



Erik D. Drake, MLS

PhD Candidate, Learning, Technology and Culture

Michigan State University

PO Box 27096

Lansing, MI 48909-7096

APPENDIX E
SURVEY FOLLOW-UP LETTER #1

Erik D. Drake, MLS

**Ph.D. Candidate, Learning, Technology and Culture
College of Education
Michigan State University**

**PO Box 27096
Lansing, MI 48909-7096
517-336-6718
drakeeri@msu.edu**

June 1, 2005

Dear Library Media Specialist:

About three weeks ago, I sent a questionnaire to you that asked about your responsibility as a school library media specialist. To the best of my knowledge, it's not yet been returned.

The comments of people who have already responded indicate an appreciation for work that brings attention to the state of school library media centers in Michigan. I think the results are going to be very useful to state leaders and others.

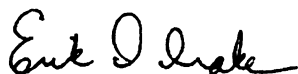
I am writing again because of the importance that your questionnaire has for helping to get accurate results. Although I sent questionnaires to school library media specialists throughout Michigan, it's only by hearing from nearly everyone in the sample that the results will be truly representative.

A few people have written to say that there is no library media center in their school or that paraprofessionals or volunteers staff the library media center. If your school does not have a library media center, please let me know on the back cover of the questionnaire and return it so that I can delete your school from the mailing list. If your school library media center is staffed by paraprofessionals or volunteers, they are welcome to complete the questionnaire. Their input is valuable, even if they are able to answer only a few questions.

A comment on the survey procedures. A questionnaire identification number is printed on the consent form so that I can check your name off of the mailing list when it is returned. The consent form is detached from the questionnaire, and the list of names is destroyed so that individual names can never be connected to the results in any way. Protecting the confidentiality of people's answers is very important to me, as well as the University.

I hope that you will fill out and return the questionnaire soon, but if for any reason you prefer not to answer it, please return a note or blank questionnaire in the enclosed stamped envelope.

Sincerely,



Erik D. Drake

P.S. If you have any questions, please feel free to contact me by e-mailing drakeeri@msu.edu or calling 517-336-6718.

APPENDIX F
SURVEY FOLLOW-UP LETTER #2

Erik D. Drake, MLS

**Ph.D. Candidate, Learning, Technology and Culture
College of Education
Michigan State University**

**PO Box 27096
Lansing, MI 48909-7096
517-336-6718
drakeeri@msu.edu**

June 9, 2005

Dear Library Media Specialist:

During the last month, I have sent you several mailings about an important research study that I am conducting as part of my doctoral dissertation research at Michigan State University.

The study's purpose is to help educators and policymakers understand the responsibilities of school library media specialists in Michigan schools in an effort to help improve services to library media specialists throughout the state.

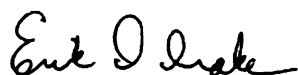
The study is drawing to a close, and this is the last contact that will be made with the random sample of Michigan schools.

I am sending this final contact by priority mail because of my concern that people who have not responded may have different perspectives than those who have. Hearing from everyone in this small statewide sample helps assure that the survey results are as accurate as possible.

I also want to assure you that your response to this study is voluntary, and if you prefer not to respond, that's fine. However, please return the blank questionnaire. If your school does not have a library media center, please let me know by returning the questionnaire with a note on the back cover indicating so.

Finally, I appreciate your willingness to consider my request as I conclude this effort to better understand the important contribution that Michigan's school library media specialists make to all of our students' learning. Thank you very much.

Sincerely,



Erik D. Drake

APPENDIX G
INTERVIEW RECRUITMENT LETTER

Dear Addressee:

Last spring, you participated in the Responsibility of the School Library Media Specialist in Michigan study. This study is my doctoral dissertation research.

Data analysis is nearly complete and the study is yielding exciting insights that I hope can be used to improve services to school library media specialists. I am conducting follow-up interviews with approximately 20 of the school library media personnel who responded to the survey. The purpose of the interviews is to validate the survey data and to provide a more complete description of school library media practice.

You have been selected to be interviewed. Participation is completely voluntary. The interview will take between 20 and 60 minutes, depending on which questions you are asked. If you are willing to participate, I will e-mail or U.S. mail to you a consent form that you must read, sign and return to me. After I receive the signed consent form, I will contact you to schedule the interview.

Please note that the interview will be conducted by telephone and it will be recorded. You will be identified on the recording only by your participant number. The sole purpose of recording the interview is to facilitate transcription. After transcription and data analysis are complete, the recording will be destroyed.

If you wish not to participate, please let me know so that I can contact another participants.

If you have any questions, please do not hesitate to contact me.

Thank you for taking the time to participate in this important study!

Sincerely,

Erik D. Drake, MLS
Ph.D. Candidate, Learning, Technology and Culture
Michigan State University
517 Cowley Ave.
E. Lansing, MI 48823
(517) 336-6718
drakeeri@msu.edu

APPENDIX H

INTERVIEW CONSENT FORM AND COVER LETTER

Erik D. Drake, MLS

**Ph.D. Candidate, Learning, Technology and Culture
College of Education
Michigan State University**

**517 Cowley Ave.
E. Lansing, MI 48823
517-336-6718
drakeeri@msu.edu**

April 4, 2006

Thank you for agreeing to be interviewed as a follow-up to the Role of the School Library Media Specialist in Michigan study. As I mentioned in my earlier communication, the interviews are necessary to validate the survey data as well to provide a more complete description of school library media practice in Michigan.

This study was generously funded, in part, by the Michigan Association for Media in Education.

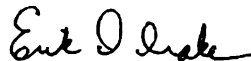
The interview will take between 20 and 60 minutes, depending on which questions you will be asked. Interviews will be audiotaped. The recording will be used solely for the purpose of transcribing the interview. You will be identified only by your participant number on the tape, and the tape will be destroyed upon completion of transcription and data analysis. Your identity will not be revealed in any publication that results from this study.

Participation in the interview is completely voluntary. If you wish to participate in the study, please read, sign and date the attached consent form and mail it back to me at the address above.

You will receive no direct benefit from participating in this interview. However, it is my sincere hope that services to school library media specialists will improve as a result of this study. There are no known risks associated with participation in this study

Thank you for taking the time to participate, again, in this study.

Sincerely,



Erik D. Drake

Role of the School Library Media Specialist in Michigan Participant Consent Form

Completion of this questionnaire and all individual response items is voluntary. You may choose not to participate in the study at all, or you may refuse to participate in certain procedures or answer certain questions or discontinue your participation at any time without penalty or loss of benefits.

Any identifying information will be kept confidential. Your privacy will be protected to the maximum extent allowable by law. Recordings are numbered solely for the purpose of transcribing the interviews. All identifying information will be destroyed upon completion of data collection.

If you have any questions about this study, please contact the study coordinator or the chair of his dissertation committee:

Erik D. Drake
Study Coordinator
517 Cowley Ave.
E. Lansing, MI 48823

drakeeri@msu.edu
(517) 336-6718

Dr. Raven McCrory
Dissertation Committee Chair
513G Erickson Hall
Michigan State University
East Lansing, MI 48824-1034
mccrory@msu.edu
(517) 353-9272

Finally, if you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact, anonymously, if you wish:

Peter Vasilenko, Ph.D.
Director of Human Research Protections
202 Olds Hall
Michigan State University
E. Lansing, MI 48824-1047
Phone (517) 355-2180, Fax (517) 432-4503
irb@msu.edu

Thank you, again, for participating in the study.

If you consent to be interviewed, please sign and print your name and date below.

Signature

Date

Printed Name

APPENDIX I
INTERVIEW TRANSCRIPTS

I understand that you are a certified teacher, but you do not have a master's in library science or the library media endorsement, right?

That is correct.

And are you responsible for teaching regular classes outside the library?

Yes, for K through 7. Once a week, except for seventh grade, I see twice a week.

In how many buildings do you work?

Just one.

Is any portion of your schedule flexible?

Yes. There are several—Wednesday and Thursday morning are open periods and I'm very flexible. I work around what the teachers really need. I try to meet their needs. I have, you know, 17 regularly scheduled classes, but there are open times, and quite often, an entire class if they're researching something and I help them.

Are you familiar with *Information Power*?

No, I can't say I am.

***Information Power* is the national standards for school libraries, and it covers standards of all aspects of school library media centers. One of the sections covers the role school library media specialists, and, again, I'm using that term to cover people like you who may not be certified but are acting in the role. And the four roles for school library media specialists are information specialist, which are traditional library duties, like circulation, selection, those types of things. The second one is program administrator which is pretty self-explanatory. The key things there are budgeting and supervising staff even if they're volunteers or students, those sorts of issues. The third one is teaching, which is again, self-explanatory, the interaction with students that's instructional. And then the fourth one is consultant, which is any work with teachers that really revolves around designing instruction or curriculum and/or assessment. So there's those four roles. What I'd like to know is what proportion of your time do you spend on each of those roles.**

I do them all, but probably I'd say that teacher will always be first because that's my profession and that's how I think, so that's at least 50 percent of my time. Information specialist, yes, that's all the time, but maybe 30 percent. And then I'm

guessing 10 percent on program administration and 10 percent on consultant. Our curriculum is rather set, and most of my help to the teachers is trying to get them to coordinate technology into the curriculum, and I work very closely with our computer teacher to do that. We have a separate computer—I don't like to call it a lab because she really has a classroom setup. She has 30 computers, but she teaches regular classes. She teaches programming. She teaches everything. I work with her trying to coordinate what she's teaching with what I'm doing with what the curriculum is calling for, so time is spent on that. I have to be honest, though, and tell you that I'm most fortunate to have a library tech, a certified library technician who works with me and with our computer teacher across the hall. The three of us kind of work together, and she's there almost four days a week. So she does a lot of the technology, but she's also—. I'd say 50 percent of my time is spent on teaching. That's just how it happens to be right now.

How do you feel about the amount of time that you spend teaching?

The amount of time spent teaching is fine right now. It's fine.

And then the same question for consulting?

Never enough time for that. I wish I had more time to spend on that, but I don't.

What prevents you from spending more time consulting? I'd like three reasons from the top thing that prevents you from consulting down to the least.

I don't think I have time enough for the consulting mainly because I'm busy checking in and out materials. I'm busy repairing materials. I'm busy preparing for classes. For studying a particular topic, it takes me time to pull all those books and materials and have them sitting out when that class comes in so they see them and will check them out. A lot of my time is spent actually in the library not working as closely as the teachers as I would like just because there are only so many minutes in the day and I have to have 45 minute classes for all the K through 7 every week. So, the leftover time is when they send me a note they're going to focus on a theme, or they want all the books on butterflies, for example, then I do that, but I don't have as much time as I would like to delve into the topics for them.

If you have two more reasons, that would be great. If you don't that's fine.

Another reason is, and I'm sure it's universal, our teachers tend to have tunnel vision. They just see what's in their classroom and they sometimes aren't too open about sharing with me what they're studying at a particular time. I have to keep prodding them to get the information. Or, I learn a lot of my information from the students when they come in. You know, "We need books on such-and-such.

We're studying penguins. Where are the penguin books?" If I'd known ahead of time, it would make it easier. And I understand, having been a classroom teacher, that they don't have enough time to think about me some days and notify the library as to what they're doing. That tends to be a problem, and I'm sure that's for every specialist. Do you hear that?

Yes, that's very common.

The third thing is always the budget. We do have a wonderful library, maybe 8,000 volumes. We're very fortunate. But, we always need more money to buy materials appropriate for what they want, and sometimes we have them and sometimes we don't.

So it's almost a two-part answer. One is budget, and the other is materials availability, which are obviously very closely related.

Mm-hm. Right.

Thinking about your educational background, and that can be formal education or on-the-job training or professional development, how adequately do you feel that you are prepared to teach?

I feel very adequate to do what I do right now because I was a classroom teacher for 20 years before I took over the library. The teaching part of it, it's okay. That seems easy to me right now.

And the next part is the same question for consulting.

I wish I had a library science degree. I'm sure I see that I can help the teachers because I was a classroom teacher, but I'm not always as familiar with all of the materials in the library as I would like to be. I don't know what I mean by that, but I'm sure there's a lot that I don't know about the MARC records and things that I just don't know about. I had a couple of library science courses in college because I was an education major but they were mandatory, and I've never delved into this field.

Do you feel that you have the support of your building administration to teach?

Currently, yes. Our principal is very supportive of the library and extraordinarily so, so I'm fortunate that way.

And the same question for consulting.

Yes. Yes. They're supportive, yes.

Do you think they really understand what teaching and consulting that library media specialists should do?

No. I don't think either our principal or assistant principal have any idea how much the job encompasses. I think they think you check out books all day long. End of story. I don't think they have any clue. And preparation time for the classes is just time spent researching the topic, finding the good web sites. I don't think they have any idea of the hours involved. They are very supportive, but they don't think about the time that it takes to do all of that.

I have the same group of questions about your teachers. So, are they supportive of your teaching?

I think they appreciate the teaching, yes. Yes, they're very supportive of teaching.

And consulting?

Supportive, yes. They just aren't too wise about it. Supportive, yes.

And do your teachers understand the scope of what you're supposed to be doing.

Our principal does. I think he does understand what we should be doing. Yes.

And what about your teachers?

Yes, he's very supportive of our teachers. He was a former English teacher, so I think that's an advantage because he's been on both sides of the desk. He's very supportive and understanding of what the job entails.

Thinking about what you've just been talking about with teaching and consulting, could you briefly describe what you would see as being an ideal teaching scenario with respect to the library?

The ideal class would be in order for me to be prepared, for one particular class is the teacher would tell the librarian the topic that they're currently studying or books that she would like her children to check out and materials that she needs and would give me about a week, you know, four or five days ahead of time, so that I could have the materials out. I could have a display set up that would be attractive when they came in. I could read a story on that topic or something pertaining to that. Time to do research on the Internet to pull articles to pull things that I know would be age appropriate and activities that would—I would read aloud to them—activities to tie everything together. In order to do all that, I need to ahead of time so that I can have everything prepared and find what I don't have in our library. I'm willing to go to the public library to get other materials if I have some advance notice. Because quite often I'm just told, "I'm taking the

class” as they’re walking down the hallway. Oh and by the way, we’re studying bears, so do what you can with bears. That’s the lack of communication that quite often hinders my work.

I think I can tell how you’re going to answer this next question, but I think it’s important to have the data to compare. How does this compare with what actually happens in your school.

What actually happens is often haphazard because it’s last minute. It’s my hearing the day before or the same morning that I’m seeing the particular class. This what I’d like you to do. This is what we really needed. This is what these children are really interested in, and then I have to rush around and pull what I can. I currently have very few parent volunteers, because most of them, you know, the mothers work, or prefer to spend their time on another activity. I have three very good volunteers various days the week and do shelving and help the children find books, but they don’t have time to help me. You know, it happens to the best of my ability, but it isn’t an ideal situation.

This is the last question. What role, if any, does the nature of your school’s community playing in your capacity to teach? I’m trying to find out whether things like the socioeconomic status of your students’ families or the students’ families’ attitude toward education have on your work.

We’re in an upper middle class neighborhood and parents are very interested in their children’s education. So it’s a wonderful asset for me. Most of these children love books. I mean they come as Kindergarten knowing a lot about books. And they’re very sophisticated about what they want to read and have definite interests. Sometimes that’s very helpful to me because I can pinpoint a book for them. It’s challenging also to keep up with the interests to meet all of their needs, but it’s wonderful that our parents are educated and want the best for their children. It makes my job much easier.

Do those issues have any impact on your ability to consult with teachers?

Yes, because there’s pressure from the parents on the teachers to make their learning fun and to make it very interesting and keep their students minds going, so they know the library’s important. They do the best they can to communicate with me. There’s always the time crunch.

Can tell you me the nature of your position? In other words, are you a certified media specialist or a parapro?

I'm a certified media specialist?

So you hold an ND endorsement, library media, on your teaching certificate?

Yes.

In how many buildings do you work?

Just one.

Does your library operate on a fixed or flexible schedule?

On a flexible schedule.

Are you familiar with *Information Power*?

Yes.

For the purposes of my study I'm using the language from the 1988 edition of *Information Power*. And the two roles of media specialists that I'm interested in for the purposes of my study are teaching and consulting, and then there's also the information specialist role and the program administrator role. So, if you think about those four roles, about how many hours per week or what percentage of your time would you estimate that you spend on each role?

It depends on what time of the year. The information specialist I would say 8 hours and program administrator is probably about 10 hours. And teacher—I do a lot of teaching—about 15 hours. Consultant would probably about 8 hours.

How do you feel about the amount of time that you spend teaching. Would you like to do more, or a lot more, or do you think it's about right?

I think it's about right? It's really hard getting to let me teach their kids.

And how about consulting?

I would like to spend more time consulting.

What do you think prevents you from spending more time consulting?

Please offer three barriers ranked from most preventing consulting to least preventing.

I think the barriers are the non-professional duties that end up getting put on the media center, you know, making ID cards for students, but the amount of the time—not that this is a bad thing—we have lunch students in here probably about 2 ½ hours out of the day which makes it hard to be productive, you know, in the more professional role.

Do you have one more? If you don't, that's okay.

Just interruptions, you know, teachers that call up every time they want to book a REMC video and forget their password every time and they call up to get their password. Those type of things.

Do you feel that your professional preparation is adequate for you to able to perform your teaching role. You can think about that as your formal education or any professional development or....

My formal education was so long ago and it really didn't have—because I got my master's in library science in 1976, so my formal education doesn't really apply much to what I'm doing now. Professional development, you know, there's been some of that that's been good, you know, conferences, but not enough professional development. It's mostly just adapting as the needs change the role.

Where did you go to library school?

Central Michigan.

Do you feel adequately prepared to consult with teachers?

Yeah. I do a lot of journal reading, that type of thing. As far as Most of my consulting with teachers has to do with supplementing the curriculum and I've kept up on that from professional development and working with curriculum development and school improvement, those kinds of things.

So it sounds like a lot of your preparation for teaching and consulting has been sort of on the job and learning as you go.

Yeah.

Do you feel that you have the support of your building administration to teach?

Yes

Do you think that they understand that you're supposed to teach?

I think they do now, yes.

You said you "think they do now."

Well years ago, they really expected more of a babysitting service from the media center, and we've changed that.

And the same question for consulting.

Yeah.

Is it similar where it's just taken years of training them what you're supposed to be doing?

Yeah, you're just sort of pushing your way in and just offering to, you know, if I know the language arts is looking at new books, new novels that they're going to read, to find reviews for them and suggestions and, you know, just kind of keeping my ears open as to when they're—because they in the beginning didn't think of me as having any knowledge of that area for some odd reason. You know, so just kind of keeping my ears open as to when I could give them input.

How much of your teaching staff do you work with on a regular basis?

Probably 60 percent.

And of the ones that you don't work with on a regular basis, do you think that they understand?

The ones I don't work with are probably mostly math, the PE, industrial arts teachers.

So it sounds like you're working with most of your departments.

English, social studies, science, we work pretty closely together. The foreign language teachers and the art teachers.

Thinking about what you've just been talking about with your teaching and consulting, could you describe what you would see as being an ideal teaching scenario?

What I think would be really nice would be to have a classroom adjacent to the media center instead of having to do the teaching in the media center. Sometimes we have two classes in here at once, and I'm trying to teach one class and the other other class is working on projects or finding books or

whatever, which makes it pretty hard for the other class to pay attention. And, well, I think the first thing would be to actually spend more time with the classroom teacher preparing the lesson. More of a consultant opportunity to have a better idea of what they want the students to accomplish before they come in. Because lots of times its pretty much on the fly. They'll call in the morning. They want to come in and have, you know, start something, or we'll have them work on their research project, but then they'll change the whole idea and not tell me. When they actually do show up. You know, just to have a clearer understanding of the teacher's expectations. And maybe to have some input more in the beginning of the planning process because lots of times if they just would change their focus a little bit we would have more materials for the students to use or better materials for them to use.

You actually talked a lot about consulting in that question, which is good, because that was the next thing I was going to ask you. What about actual instruction? What would that look like.

Geez. The kids would all pay attention. Yeah, that would be nice. One of the things that's hard is I do a lot with Internet searching, and the kids already all think they're experts at that, and they really are very inefficient, and though, so often, they're not real lessons. The kids just really tune out and, you know, I guess to have something that would be a big attention grabber at the beginning, which lots of times I can do with finding music lyrics and things like that online, but a lot of times teachers don't like that because it gets their attention but its not really on the focus of the lesson. But real quickly that's the thing. And actually not having the time. So often the time is real limited. The teachers in their plans will allow them one or two days to work on a project and so I can't really use as much time teaching as I would like to. The students wouldn't have enough time to accomplish what they need to accomplish. So time constraints are a really big problem in every area of education.

This is the last question. What role, if any, do you see the nature of your school's community playing in your capacity to teach and consult? What I'm really looking for is whether you see things like the socioeconomic status of your community or your community's attitude toward education affecting your work.

Well, of course they do. The socioeconomic status in this community is changing now, so that's kind of an interesting question. It does affect my work because we have more and more students who have a poor background in technology use, poor background in keyboarding skills, that type of thing. So it does—it seems like things are taking the students longer to accomplish.

And then the same question for consulting with teachers.

I don't think that the change actually—we do a lot of networking and teaming in

this building, and we have time built in to the day to do that. I don't think that that really is changing. If anything it's more positive.

What is the nature of your position? In other words, are you a certified teacher library media specialist or a parapro?

Certified library media specialist.

Then I assume you hold the ND library media endorsement.

Yes.

In how many buildings do you work?

One.

Are your libraries operated on a fixed or flexible schedule or a combination?

Flexible

Are you familiar with *Information Power*?

Yes.

I'm using the language from the 1988 edition of *Information Power* for the purpose of my study. I'm sure that you're familiar with the four roles of library media specialists: information specialist, program administrator, teacher and consultant. About how much time per week or what percentage of your time would you estimate that you spend on the information specialist role?

I do recruit and train volunteers as well as student aides to help in the library. Once they're trained and they're working there's not a whole lot to it. I would say that's very minimal. I would say one or two percent.

And teaching?

The teaching and consulting part of it, which is the majority of what I do. This school year compared to last year, I would say the consulting part of it has really increased as I've been doing a second master's degree in educational leadership, and that's kind of the role I've taken on in the building now. So, if we're just talking this school year, I'd say the consulting part is 50 percent, and teaching 40%, and information specialist the remaining eight or nine percent.

How do you feel about the amount of time that you spend teaching and consulting?

Would like to do more of the teaching part of it, but I think that, as I mentioned with my second master's degree in ed leadership that I'm working on, I think that is kind of been the cause of taking on more of the consultant role working more with the other teachers than directly with the student. I guess I'd say I'm pretty satisfied.

What prevents you from spending more time teaching? I'd like you to rank the top three reasons from most preventing to least preventing.

Probably the biggest thing is that my building principal or administrator relies on me to complete our Education YES! status reports. Really I do a lot of administrative tasks not related to library media, but related to the whole building in general. That's really the biggest thing.

And then the same question for consulting.

I think I've got that maxed out. I don't think there's anything getting in the way of that. With the staff here in our building a lot of them—like I mentioned I have the bachelor's degree in mathematics—they rely on me to help them analyze the data from assessments they give in the class, and even I'll go into classrooms and do math instruction with the students because the teacher, I mean, they're having a hard time getting a certain point across. I'll go in and the teacher will sit there and observe me and the techniques I use.

Do you feel adequately prepared to teach, looking at your education and also any professional development or anything like that?

Yeah, we, in the district I work, we have professional development in the school building, and we also have two, I'll use the word organizations or committees. One is called Curriculum Steering Committee and they approve money, like if I find that I need professional development, you know, as an individual, I can go to them and explain what it is I want to accomplish through professional development, and tell them what I would like to attend or whatever. They'll fund that up to 8 or 9 hundred dollars. And I'm eligible for that every other school year. And then the second committee is the Professional Staff Development Committee that will provide funds also every other school year. So really, between the two committees I can get money every year, but the Professional Staff Development, that money is limited to, I'm just guessing right now, I can't remember, I think it's limited to 2 to 3 hundred dollars. It might be more if you go out of state.

Do you feel that you have the support of your building administrators to teach?

Yeah, my principal's great. Anything that I need as long, you know, if there's a— pretty much he'll support anything that improves student achievement. I would like a nicer to chair to sit in, but that's not happening.

So I'm guessing that that answer applies to consulting as well?

Yeah, anything that's gonna help out student achievement, we'll find money or do whatever it takes.

Do you feel that you have the support of your teachers to teach and to consult?

Yes. I've talked to them and worked with other media specialists and they really like that I don't pressure them to do a lot of things that would take away...I guess what I'm trying to say is that teachers that have come to my building from other buildings say that sometimes their experiences with media specialists are that media specialists have such a strong desire to really get in there and teach the kids directly that it's taking away from the core academic instructional side. So, I just leave, like I said, we're on a flexible schedule, so I tell the teachers, you know, "If there's every any need that you have, let me know." Like I said, even if it's not library media related, I'll go in and teach math if that's what they need. You know, anything I can do to help them out. And there are, like our fourth grade does a, they hold a wax museum. They dress up like famous people from history, or even current, like athletes, or whatever, so we do a biography project on that, so obviously I'm teaching biography, you know the difference between biography and autobiography and how they're arranged on the shelf, so, I mean, I do those things, but I pretty much let the teachers come to me when they have a need. They're the ones that know the curriculum better than I do.

The next two questions deal with thinking about what an ideal scenario would in your school, the first one being teaching. So, if you would please just briefly describe what you think would be an ideal teaching scenario, in whatever format works for you.

Well, first of all, I would ideally want to start out with some sort of assessment on what the students own abilities are so that I know what areas to focus my instruction on, then follow up after the instruction with another type of assessment that determines, you know, the academic gain that they've made, so I can using data show what the students of learned.

And how does this compare with what you actually do? Are you able to achieve that?

Yes, my district this school year, we started Richard Gafour's Professional Learning Communities Model for School Improvement and that is one of the biggest components is using data to demonstrate that the students have learned

and what do you do when the students haven't learned the content. And we are given 45 minutes every Monday morning, the students have a late start, and the entire building has collaborative planning time together to work on those things. And that kind of goes back to where my consulting part of it was, is that, as a building, we really are lacking any professional development in the professional learning communities model, so what I've done is taken it upon myself to learn as much as I could, through I've read so many books about professional learning communities to try to get a better understanding so that I can help our teachers understand the process that they're going through.

And then the parallel question about consulting with teachers. What would your ideal scenario look like there?

Well, I guess, I'll just go, our professional learning communities model that we're using, I'm really impressed with how that has worked out. Because we started out the beginning of the year, developing team norms and how everybody will respond to each other, but always listen to everyone's ideas, and no one person is going to dominate the group. And so there's a lot of respect for each other's ideas no matter. You know, someone, their idea might sound totally off the wall to me and ridiculous, but you still hear it out, and you just try to build on other people's experiences. And you basically, teachers have to acknowledge their weaknesses, not as admitting that they don't know how to teach, it's acknowledging that you're not perfect, I guess. And it's taking other people's experiences that they've had success with and really trying to make yourself the best possible teacher that you can be.

And you talked about your professional learning communities. So it sounds like you're able to achieve that pretty well in your school?

Yes, we do that weekly. I started out primarily working with the third and fourth grade teachers because that was the largest team of teachers. There are five teachers there. And I've also done work with the second grade and Kindergarten teachers now. I've had success with that third and fourth grade group and now I'm branching out.

What role, if any, does the nature of your school's community play in your capacity to teach?

I guess the best way I can respond to that is that the parents from our school are very supportive of the library media program. Every year since I've been here they've donated through the PTCO. I think this year because money was a little tight with them, this was the least amount that they have donated so I have been here, and that was \$3000. So that, to say that was the least, they're very generous. They're very supportive of the library program, and every day in the morning I have a parent volunteer in the library that runs the circulation desk. If that parent wasn't here, then the percentages I gave you for teaching and

consulting would drop off tremendously because we have a very high circulation rate. And if I didn't have a parent there, the book return would be overflowing constantly.

So you don't have a parapro?

No, no parapro. It's just me and volunteers.

What grade level do you teach?

K through 5. We also house a preschool program for 3 and 4 year olds, but I don't service them.

I was curious whether you had any student volunteers also.

I mentioned I trained library media aides, I call them. The parents or myself, we check in books, I sort them. I have shelves behind the circulation desk where I sort them into picture books, fiction books and non-fiction. The students are assigned certain areas of the library that they come back and get the books and reshelve them.

I don't know if I let you finish answering about the community.

Oh, there is another thing, too, that the parents really help me with. We hold the Scholastic book fairs, you know, to raise money for the library and parents volunteer all through the week to run that and help students find books.

Can tell you what the nature of your position is. That is, are you a certified teacher, library media specialist, or.

No, I'm not certified.

But you are a public librarian as well, correct?

Yes.

How many school buildings are you responsible for?

Four.

Is the library located in one of the buildings?

Yes it is.

Is that building operated on a fixed or flexible schedule?

We're definitely flexible.

Are you familiar with *Information Power*?

No.

Okay. *Information Power* is the national standards for school library media programs. And it outlines four roles for school library media specialists, and those four roles are information specialist, which are traditional librarian roles. They tend to be more like the kind of work that public and academic librarians tend to do. The second one is program administrator, which deals administrative functions like budgeting and staff supervision and those kinds things. The third one is teaching which is direct instruction to students. The fourth one, which is assisting teachers with curriculum design and lesson development. It's more than just providing resources. It's actually collaborating with them on the design of the instruction itself. So, given those four roles, can you give me some sort of estimate of how much of your time is spent on each of those four roles?

I'll start with the last one. All I do is provide materials. And as far as instructing, that's pretty minimal. I couldn't even guess. I'm so busy that I just do not have the time. I do ninth graders and I do sixth graders twice a year in a real limited time. So, you know, that's pretty much it. As far as time spent on staff and administration. That's the hugest part of my job.

Can you estimate a percentage at all for those two?

I'd like to say 65 percent of my time.

On program administrator?

Yeah

And basically the rest on information specialist?

Yeah.

With a minimal amount of teaching?

Yes

Do you feel that you should be spending more time teaching or consulting?

Yes, definitely instruction, yes.

Could you rank the top three reasons that you're not able to spend more time teaching?

Because of staffing. Budget constraints. That's it.

And the same question for consulting? It could be the same two reasons.

Yeah, it is.

Do you think that the school building administrators think that you should spend more time teaching and consulting?

I think everybody knows that we need more, but they also realize that I can't do more.

And that would apply to teachers also?

Yes.

In an ideal world where you had all the resources that you needed, you know, your staffing and your budget, what an ideal teaching scenario look like to you in a library setting?

That is a hard one. I have scenarios in my mind, but to explain it. And since I've never had the opportunity to. Wow. That is a tough one. Number one, to have a classroom to sit down in because I'm always running for phones. To sit down and

have the time to work out lesson plans. If you'd given me a day, I would have come up with a bang answer. And to have all the materials and oh my goodness. We do have a brand new library, and we had a classroom attached with a lab, and this year, the school decided to give the kids all laptops and dismantled the lab and took away our classroom which is attached to it and turned it into a junk room. It's horribly frustrating.

So do you have a new school building, or did they add the library on to it?

It's just the library.

Were you in a separate building before?

No, we were right in the middle, which horribly intimidated our public patrons.

Did you have anything else that you wanted to add to the teaching scenario question?

Off the cuff, no.

The question about consulting. That's, again, where you're collaborating with teachers to develop instruction and curriculum. So, what an ideal scenario look like with respect to that.

I don't know. I just know that our staff doesn't even have a clue of what we can do for them. And it would be so fun to sit down with them and to show them what I could offer them and I just I would like to be able to see where they're coming from and what their needs are.

This is the last question. It should be a little easier than the last two. What role, if any, does the nature of your school's community play in your capacity to teach and consult? What I'm looking for are things like the socioeconomic status of your community or your community's attitude toward education. Does that affect at all your ability to teach or consult?

That's hard. To teach or consult, I don't think it affects it.

Participant was provided with introductory material and responded as follows:

Okay, well, I'm involved in three buildings at three different levels, so, yeah, you know, go ahead and ask me. I probably—everything changes every year.

When I talked to you last spring you were in a major change at the end of last school.

They were planning on adding a building this year for me.

What is the nature of your position? That is, are you a certified library media specialist or a parapro?

Yes, I'm a certified library media specialist with a master's in library science.

So you hold an ND endorsement on your teaching certificate, probably. That's the library media endorsement?

Yeah, I have a master's degree in library science, an MLS. I really, you know, whether that's an endorsement or not-- This is my 32nd year, so probably maybe the degrees have changed over time.

You said you work in three buildings, is that right?

Yes at three different levels. I'm at the middle school today, this is seventh and eighth grade, and I work at ----- Intermediate School, which is fifth and sixth grade, and then two days a week I also work at an elementary, which is K through fourth grade.

I know the answer is probably different for each of your buildings, but do you operate on a fixed or flexible schedule?

Actually, I would call it a combination because, while I'm here at the middle school, everything is flexible, at Intermediate it's very flexible. At elementary, has to be a fixed schedule where the same classes come in the same time every week.

And in that building, is your scheduling entirely fixed, or do you also have times when classes and students can come in?

No, my schedule is totally fixed there.

Are you familiar with *Information Power*?

A little, yes. You know, yeah, somewhat.

The reason that I asked is the basis of my study is two of the four roles for school library media specialists that are outline in *Information Power*. The four roles, and I'm using the language from the 1988 edition. They changed it in the 1998 edition and it makes it difficult to talk about both, so most of the literature uses the 1988 language. So, the four roles that the 1988 edition of *Information Power* outlines for school library media specialists are information specialist, which is the traditional kind of library duties, checking books in and out, shelving, inventorying, all those kinds of things. The second role is program administrator which would cover things like staff supervision and budgeting and issues like that. The third one is teaching which is any instructional interaction with students. And the fourth one is consulting, which is assisting teachers with lesson and curriculum and design and assessment and those kinds of things. So, given those four roles, how much time would you say that you spend on each of those four roles?

Well, it is hard, because with program administration, it's like I do spend a lot of time trying like reading *School Library Journal*, and I do all of my ordering online. I kind of order on the run. And I don't know whether is that part of program administration would be ordering items? Because I'm in three different buildings and I try of have to know what's out there and what's good?

There's kind of a fine line between some of these, because teaching is really part of consulting, and the example that you gave about acquiring books. I'd say that the process determining what you should buy is probably part of information specialist, but the actual process of buying, you know the purchase order and requisition and all that stuff is probably program administrator.

Yeah, it kind of overlaps, I guess you would call it. And I do that kind of on the run. It's kind of like someone tells me, "Hey this is a really good book or this is a really good series," I'll go into my computer and I'll put it on my order, and I will usually do an order to a book jobber over the summer. Well, actually it's sent in when I leave for the summer, but I've probably been working on it from February through May.

So it would probably be easiest to think about it as a percentage of your time.

Yeah, it's really hard to say. And you could say maybe a quarter each of all four. That, to me, would probably be easiest to say 25 percent in each of those areas. I think that's how I would put it, and really, you see, at the elementary I actually spend more time teaching because my position in the elementary provides

planning time for elementary teachers, so every time I see those kids, I have a lesson plan and I don't spend as much time. Their budget is not as big as the other schools, so I don't have nearly as much money, and I spend more time teaching at the elementary and programming here at the middle school. And at the Intermediate, we have a reading program, Scholastic Reading Counts, where we're pushing reading a lot more. Fifth and sixth grade kids read a lot. And in seventh and eighth grade, they pull away from it. The only time they're in the media center is when they're using computers, well not computers, but they--. We also have a reading program up here. We simply call it silent reading, but they begin every day here 20 minutes of reading. So, we do check out a lot of fiction books to our middle school kids because they have to read. They have to have something to read, which is good. But I have this feeling that they wouldn't be checking out as much of reading if that wasn't a requirement. And, quite frankly, and I don't know if you've heard this from other media people, kids are so into electronics and the Internet, and I have had a very difficult time getting kids to use our non-fiction collection. And, so I can say to kids, I have the perfect book that I can pull right off the shelf, and they'll say, you know, "I don't want that. I just want to look at the computer." And I had a student the other day who I had told him I had the perfect book on Chinese history. He said, "That's okay, I want to use the computer." He says, "I don't like to read." I said, "You're going to have to read no matter where you get your information from." But they're enamored with the computer. They love it. And so, I don't know, as far as your asking me how do I divide the time up. I use the time differently at different levels. Well it's like with the middle school, I do more consulting. I'm not in classrooms near as much because the teachers all of the sudden have so many outcomes that they have to go through, and they're just really pushed for time. And, so they don't—I shouldn't say they don't like sharing a classroom with the media specialist. It's just, I don't know, just not as important to them as it used to be. Because I used to spend a lot more time classrooms than I do now, and when I first started I did a lot of booktalking in classrooms, and it's like they don't have the time.

How many buildings were you in then?

Just one, just the middle school.

That seems to be a huge—I don't want to say it's a problem—I guess it's a challenge for media specialists is as they get more and more buildings, they're able to do less and less in each building. Which, I mean, I guess that makes sense, if you have three times as much work and the same amount of time.

Oh, absolutely. And unfortunately, you don't get to know the students as well, you know, and when I did just intermediate and middle school, it was really nice because the buildings are not that far apart. They're close together in age. And now, I go over there once a week, and they're one afternoon a week. And there are two aides who cover the building and they let me know what needs to be

done and, you know, we work together really well because we've worked together for so long. But, it's not the same. I don't like it because I don't get to know students as well.

So, if you have five work days and you're in three buildings, how do you divide your days up.

Monday and Thursday I'm at the middle school. And on Tuesday, I begin my day at the middle school and end it at the intermediate and Wednesday and Fridays I'm in the elementary.

When I was a media specialist, I only ever had one building, so it's hard to even imagine the difficulty in managing three buildings.

Well, see, there are aides in all of the buildings, except at elementary, now, the aides the only thing that they do are shelve the books. And they may do some processing, but I order everything all processed. And at the middle school and the intermediate, we process all of our own materials. But, at the elementary, I order everything totally processed.

All right, let's go back to talking about teaching and consulting. How do you feel about the amount of time that you spend teaching?

How do I feel about it? Well, it's fine. I enjoy it.

Do you think it's about the right amount of time?

Well, I would like to do more teaching at the fifth and sixth grade level. Because they don't provide any time at all. There's just nothing there. Here, the way I feel lately is that it's that these teachers are just pushed to the limit on everything that they have to do, and I would like doing it more teaching, but the feeling that I get from the staff is that they don't get enough time for that. And that's not the way it should work. But that's the way it seems in this particular district.

And the same question for consulting.

Oh, I feel good about any consulting that I've done. I mean it's—All of the staff enjoys working with me, and I enjoy working with the staff. And, that time is fine. And people are real good about coming in, you know, "Can you help me out with this," or "Can you help me with that," so that's great.

I think you've already answered these next two questions, but what do you think prevents you from spending more time teaching, and I'd like three factors ranked in order from the one that is most prevent you from teaching more down to the third one that is the least.

Well, I think the way my schedule is. It prevents you from being more involved with the teaching—yeah, with the classroom teachers, the way my schedule is set up. And the other thing is, I think, there is so much expectation on the classroom teacher that that interferes. I could be doing more. I actually believe that I could improve the amount of time I spend in classroom teaching. But, I just—I do, I get the feeling that there are so many expectations on the classroom teacher that they don't want to take the time to meet with me to be more involved than I am. And I think they're accepting that I don't teach as much. They're okay. My feeling is that I could be more involved in teaching more at the middle school and intermediate, but my schedule doesn't provide for that. And the third thing that would—I'm not really sure.

And you said just a second ago that you felt that you spent about the right amount of time consulting.

Although if I were more involved in teaching, I would be doing more consulting than I do.

Thinking about all your education, you know, your formal education, any professional development, on-the-job training, how adequately do you feel prepared to teach?

Well, I know that teaching has changed since I graduated. Believe me, it has become more probably learner-centered, where the child be, you know, should be more responsible for their own learning, which is great. I think that's a better approach than the teacher disseminating information and standing in front of the classroom. I believe that that is more—at least that's where I see there has been a change is that kids are expected—and whether they always take on that responsibility, I don't always see that they do, that they feel more responsible for their own, you know, gaining their own information. Because I see a lot of students who they want to be spoon feed. They don't want to dig in and find information. I don't know if that's helping or not.

And then the same question for consulting. How prepared do you feel that you are to consult?

Oh, absolutely fine, yeah.

Do you feel that you have the support of your building administrators to teach?

You know, I would have to say yes and no. She probably would want me to do more, and and I have a woman here, and there are two men at the middle—intermediate and elementary. But, yeah, I would say that she would want me to do more teaching than I am, but yet the classroom teachers I know would say, "I don't know how we would be able to do that." So it's kind of a Catch-22.

And then the same question for consulting. The answer may be the same, but if you have anything else to add, you can.

No, the consulting part is fine.

And then, do you feel that you have the support of your teachers to teach?

That's where I'm questioning if I do because the feeling that they have provided with me over the years, the more buildings I get, the less accessible I am to them, which, they've also said, "We've got way too much we're doing, so we can't give up this time to have you do this," or and they would rather just have them do something than have me come in with them. So, and I don't know, what you've found out talking to other staff people, but still I feel that that's an area where I could improve.

Could you briefly describe what you would see as being an ideal teaching scenario with respect to the library? So, if you had all the resources that you needed, including all the time that you needed, what would teaching look like ideally?

I'm probably not the best one to answer that question, but I—If you had all of the resources available to you? With no strings attached?

No strings attached.

I think it might be where every kid had their own personal laptop computer or a Palm Pilot where they had, you know, with them, possibly an encyclopedia built in to their computer, and they had a dictionary—They had all the resources that they would need to, you know, right a paper, and they would carry that laptop with them. I mean, that would be—if you had the resources available to do it. I would say-- See now, we're in the situation where I've got like 40 computers in here. I've got eight drop-ins for kids who are—No actually I've got 30 for a class and then eight drop-ins on the side, so that's 38 computers available to kids. And I have four others for my aide and myself. We have a lot of computers in here, plus we've got a cart of 30 laptops that we check out for teachers to take to classrooms. But, ideally, if every child had their own laptop that they were very cautious with and very careful with, they could just come in and sit down wherever they were at. I don't know, maybe I'm wearing myself out, you know, what would happen, then, is that the role of the librarian would be more minimized. But then it's like with the paper copy encyclopedias, they're not getting used nearly as much. I mean I see things like sitting on the shelf and I just—I'm on a listserv for librarians, and someone wrote...

Remainder of interview lost due to equipment malfunction. The only question asked dealt with the impact of community on participant's teaching and

consulting.

The first thing I'd like to know is what the nature of your position is. That is are you a certified library media specialist, or a paraprofessional, volunteer, or anything like that?

Okay. My position is a certified media specialist. So, you have to have a master's degree in library science.

So, do you have an ND endorsement on your teaching certificate.

Yes, I do.

In how many buildings do you work?

I cover four schools.

What grade levels?

Kindergarten through sixth grade.

Do your libraries operate on a fixed or flexible or combination schedule?

Mostly on a fixed schedule. Although a lot of the libraries, they all have scheduled times for each of the classes, and a lot of them allow flexible scheduling for those open times.

Are you familiar with *Information Power*?

Yes.

And you know there were two editions, the 1988 edition and the 1998 edition?

Yes.

I'm using the language from the 1988 edition of *Information Power* just because most of the literature I'm using to provide the basis for my study. Uses the 1988 language from the 1988 edition of *Information Power*. So that edition of *Information Power* outlines four roles for library media specialists: information specialist, which is the traditional librarian kind of work. The second one is program administrator, which is the administration end of that work, including things like budgeting and staff supervision. The third role is teaching which is any instructional interaction with students, and the fourth role is consulting, which is any work that is done with teachers, primarily in the area of curriculum development or

lesson development. So, given those four roles, how much time would you estimate that you spend on each one? You can do it in whatever way is easiest to calculate it, like a percentage.

I would I say I do the administration role the most, and I would say that that is fifty percent of my time. Then there's the consulting, the teaching and the information specialist. Okay. I would say the next biggest is kind of split between the consulting and the teaching. I'm trying to think how much of my time. I would say maybe twenty percent on each of those. And then about ten percent of my time on the information specialist part.

I'd like to know a little bit more about program administrator and information specialist because your answers are different than I would have anticipated. Not that there's anything wrong with that, but this is one of the things that I'm trying to understand a little bit better. Do you have a paraprofessionals or something that are able to do some of the information specialist kind of things?

Yes, we have full-time, at least in my buildings, there are full time paraprofessionals that stay just at that one location. They work the hours of the school day, and they oversee the general day-to-day operations of the library. They do storytime with the classes as well, and do some of the teaching of, like, information literacy skills. And they manage the circulation, and they also oversee the inventory.

So now I understand why you spend so much time with program administration, because basically you are supervising four full time people, right?

That's right.

And so that consumes a lot of your time, making sure that they are doing what they need to be doing?

Exactly.

Because you are not available in all of your buildings all of the time, right?

Right.

How do you feel about the amount of time that you, personally, spend teaching? In other words, do you think it's the right amount, or would you like to do less or more?

I would like to do more. I feel that it's sort of misplaced responsibility. And it's just a factor of what our administration, you know, decisions that our administration

has made, mostly based on financial resources. But I feel like that was a lot of what my training was. You know, I'm certified as a teacher and certified as a media specialist and have a knowledge that I would like to be able to share more directly with the students.

And the same question for consulting.

That I think I feel like I do a more appropriate amount. I'd like to do a little more...I feel like I consult more with the same people and it would be nice to meet a wider variety of people. But I'm happier with the amount of that that I do.

Would you rank the top three barriers that prevent you from prevent you from teaching, and the first one would be the most significant one and the third one would be the least significant?

Okay. The one that I don't know how you want to word it, but it's that financial factor that there's just not enough professional library in our district to go around. That would be the number one barrier. I would say a lack of response from the teachers, I guess would be the other. I don't know if I can think of a third.

And the same question for consulting.

For that, I would I say I would reverse those. It's just the response from teachers. I try to put myself out there but don't necessarily get the response that I would like. And I can't really force people, you know, to sit down with me if they're not interested. And the other would be the time to make it around to everybody.

Sort of related to the lack of staff?

Yeah.

Thinking about your formal education, professional development, and any onsite job training since you've been a media specialist, how adequately do you feel that you're prepared to teach.

I would say very well. And I think a lot of that is because my undergraduate degree was elementary education, so that gave me a really good foundation to start from. And then a semester of my master's degree work was a library student teaching placement. And so, I think those two things help prepare me for the teaching role.

And the same question for consulting.

That I would say has taken more work, and that's come more, I think, post-the formal educational training. More from just the experience and some of the professional development workshops that I've gone to.

Do you feel that you have the support of your building administrators to teach?

In general. Again, that's hard, because I work in a variety of buildings, and I definitely get different levels of support from different administrators.

Can you be a little more specific about that? What differences do you see between your administrators and what might cause those differences?

Sure, I think some of them have tried to get a better understanding of what the job involves and they feel that libraries and library skills and the things that I would be teaching are of value to their students and their education, whereas others I think really look at the library as it's just a place to go and get books and anybody could be sitting there checking books in and out and they don't really see the other side of it and they haven't really taken an interest in becoming educated and so they just don't support it because they don't see what there is or don't see the need for it.

Is there anything that you see about the administrators that's different that you think might cause those differences?

Age-wise, they're all about the same generational experiences. I'm thinking of the one in particular who is not real supportive, and I think it comes from her past experiences of other districts she's worked in and worked with librarians who I don't know, so I can't comment on what they did or didn't do, so I can't comment who she had a negative experience with, and then she sort of carries that over to every, you know, every person who works in a library is therefore going to be that way.

Do you have anything more to say about administrators' support for consulting?

Yeah, I don't think there's anything significantly different, though.

A little bit earlier, you talked about teachers not using your resources enough. How supportive would you say that your teaching staff of your teaching?

It's interesting, because for me, being in the different buildings, it's sort of a building attitude towards it.

Do you see any difference between the buildings where the principal is supportive and the buildings where the principal is not supportive?

Yeah. I think it's directly related to which administrator is in that building. It relates

to how the teachers view me or, you know, how much they seek out things that I offer. And obviously those buildings where the principal is supportive and reminding people that I'm there, and, you know, have such-and-such to offer, those people are more involved and appreciative, you know, the things that I can do to help them.

If you had ideal resources, what would an ideal teaching scenario look like for you?

Actually, I think I didn't know it at the time, the first job I had as a media specialist out of graduate school would really be the ideal for me at least. It really worked well. I was full time in one building and I worked on a fixed schedule, but it really worked well with that staff.

Did the teachers stay with the classes?

They did. And I think that was another important piece of it. You know, I was able to educate students and teachers almost at the same time with some issues. And the teachers were also, they really sought out the services of the library and of me in the off times, the times that weren't scheduled. So, it was truly where the library was the hub of the school and was the bustling, busy place. Even when there weren't scheduled classes, there were always people coming and using the resources for extra research and extra learning, and I think that the reason for it was just that I was there all the time. The principal, you know, made it clear that this was an important thing to her, that the media center be the hub of the school and valued me as a professional employee and made that clear to the staff.

I think you've already hit on the answer to this question, how does this compare with what actually happens in your schools now?

I don't even think it's close. I mean, I think our paraprofessionals do a fantastic job with the tasks that they're given, but to me, it's not the ideal to have...I think we're lucky that we have a lot of people that are overqualified for the job. But if you look at what the district actually require for it, it's just two years of college experience and they look for more than that and look for people who have more experience in libraries and things, but I think we could have situations where you'd have people in the position who have not been trained or do not have the experience they need.

Do you have any paraprofessionals who are teachers or librarians?

We have two. Two of them who, you know, happen to have earlier in their lives been teachers.

What would your ideal consulting scenario look like?

I don't know. I don't think I have anything more to add to that.

What role, if any, do you think, does the nature of your school's community play in your capacity to teach?

I don't really so that as playing a role. And it's interesting because we have quite a bit of variation within our district. And I work in both the lowest socioeconomic school and the highest socioeconomic school in our district, so I see the whole spectrum of what our community is made up of. And interestingly enough, the school that has the least amount of socioeconomic status is the one where I do the most teaching and is the most supportive of what libraries have to offer them.

And I take it that's not the building where you have the principal who is not as supportive, right?

Right, yeah.

What's the socioeconomic status of that building?

The one that's not supportive?

Yeah.

They're the most. They're the highest in the district.

And the second part of this questions is whether it impacts your consulting at all?

I would say it's the same.

What is the nature of your position? In other words, are you a certified teacher library media specialist or a parapro?

I am a parapro. I have two different degrees. I have my CDA for Early Childhood and I also have my Associate of Arts degree.

In how many buildings do you work?

I just work the high school building. It's middle and high schools combined.

Does your library work on a fixed or flexible schedule or a combination? A fixed scheduled is where the classes come in at specific times usually each week and usually the classroom teacher is not present. A flexible schedule is where students and classrooms sign up to come in as needed.

That's it.

Are you familiar with *Information Power*?

Hmmmm.

***Information Power* is the national standards for school library media programs, and I've used part of *Information Power* as the basis for this study, so that's why I asked this question. *Information Power* outlines four roles for school library media personnel. Two of them are teacher of information skills, which basically is any interaction between the library media specialist and students, and then, one of the others is instructional consultant, which involves the library media specialist working with teachers on anything from lesson to development to team teaching. It's basically just any work with teachers. The other two roles are program administrator which deals with all of the administrative stuff like buying books and information specialist which is the traditional librarian roles like selecting books. Given those four roles, about how many hours per week would you estimate that you spend on the information specialist role.**

I work 6 ¼ hours per day as the media specialists in the school, and I would say checking out the books and putting them on there maybe an hour and-a-half.

And the next role is the program administrator role which is buying books and all that stuff.

That would be like writing grants and stuff?

Yeah. That kind of stuff, too.

I spend actually more time doing that because it takes a lot of time and I do a lot of studying on the grants. But that I couldn't say is every day. But I could spend at least three hours, especially this year. I am only allowed \$1500 to buy books. Now our library our copyright date is 1967 and we probably have books that say that people are going to go the moon. So, at this time, my focus is that I am updating our library. I've only worked here a couple of years and we have ancient books. So this year, I have written at least eight grants, and they're time-consuming.

So can you come up with an approximation?

Okay. I'm gonna say three days a week, three hours a day.

And then how about the teaching role which is basically your interaction with students?

That's the majority of the day. I wanna say four hours.

I should have qualified that by saying if you're supervising a study hall that doesn't really fall in that. It should be where you're instructing students.

Let's say three hours.

And then the consulting role, your interaction with teachers?

That's probably my least amount of time. I wanna say half-an-hour a day.

How do you feel about the amount of time that you are able to spend interacting with students?

I feel that I need that I wish that teachers would ask me to be part of their curriculum. You know, we're coming in today and we're studying the Civil War. Can you help my students find web sites, the direction of knowing what they're topic is when they're coming. So that I could prepare.

How do you feel about the amount of time that you spend interacting with teachers?

At this time, the time that I spend with the teachers is usually having them, like, I just got a grant, and giving them information like I try to find books that meet their curriculum. So, I spend most of my time with the teaching setting up here's the information that I have now you pick books out that go with your curriculum. So any of the books or magazines that go with that.

What do you think prevents you from spending more time teaching. If you can think of three specific things, if you could list them from most preventing you from working with students to least.

The teachers getting me involved. I don't think that the teachers use me properly. I actually had my two sub teachers who used me. They're middle school sub teachers. We had two teachers gone for a period of time, and they worked together. And they were giving me report and I knew the subject. They came in here several days and I was able to know where to look for the books for these children. They were using the library properly to do research. And I knew what they were doing. They came here three to four days a week and I got to spend time with those children looking, and I actually learned a lot. Teachers don't use me like they should.

Can you think of two more things?

They have me doing a study hall out of the library. They're using me out of the library. That prevents me from being in the library to a certain extent. Another thing is that I'm doing things that I don't if they're media specialist. I do the school newsletter and sports schedules. I do other things that I don't enjoy as much. I'm not complaining but I'm not doing library work. Doing outside jobs.

And then I have the same question about consulting, the three barriers.

Okay. I don't know if this is concerning that. Our school has got a grant. They have three laptops in each classroom, and they use the library less, and so that prevents a lot of the... They don't use me because they have the facility in the classroom. They're using the Internet more than they use my circulation of books and stuff so do a lot more in the classroom than the library anymore.

Do you feel adequately prepared to teach or to consult? By prepared, I mean your education or professional development or those kind of things.

No I don't actually feel that... As librarians, we have our Traverse City...they asked me to bring my curriculum along. TBAISD Leading Lifetime Learning... REMC 2... That's the only thing that I get educated through. But what happened is they had a licensed librarian she was certified in here. But because of the income and we had no contract and the loss of money in the school system, that's when they brought me into the position a parapro but they offered to pay me a teacher's salary. So I was not educated like to have a college degree for librarian.

Do you feel that you have the support of your building administration to teach and/or to consult?

Yes.

Do you think your teachers support your teaching and consulting?

Yes.

Could you briefly describe your ideal teaching scenario?

My goal is to support my students Mason Co. Eastern in their learning skills, information I can give them in the library. They come to use the Internet how to use the circulation. How to use their OPAC to find books that are located in the library, specific web sites, how to use encyclopedias, our reference section. A lot of our students don't know how to use that. Some of our students come in here not knowing fiction and non-fiction and how the non-fiction are numerically. They honestly don't know how to do that.

Are you able to accomplish all this?

Yeah.

The parallel question is consulting, working with teachers. With all of the resources that you needed, what would your consulting look like?

I would like to have a list of their curriculum, subjects that they are covering that I have plenty of information, web sites, like, for example, our science section is doing leaves, flowers, plants, that I know in April this is what they do. I have the information the web sites, the resources to cover the curriculum that they're doing on that topic.

How does this compare with what's really going on in your school?

Some of the classes I don't have a clue what that curriculum is. For example, the health teacher, I don't have a clue what his curriculum is.

What role, if any, can you think of does the nature of your school's community play in your capacity to teach? For example, the demographics, perceptions of beliefs of the families that live in your community, does that have any impact on your ability to teach?

We live in a rural area. 55 percent are on free and reduced lunch. I do have a parent section in my library that parents are allowed to come and check out books.

And the parallel question for consulting?

No.

What is the nature of your position? In other words, are you a certified teacher library media specialist or a parapro?

Yes. Both. And my MILS is from U of M.

Then I assume you hold the ND library media endorsement.

Yes.

In how many buildings do you work?

Two.

Are your libraries operated on a fixed or flexible schedule or a combination?

Combination

Are you familiar with *Information Power*?

Yes.

I'm working with the 1988 edition of *Information Power* primarily for the purpose of using the language there. I'm sure that you're familiar with the four roles of library media specialists: information specialist, program administrator, teacher and consultant. About how much time per week or what percentage of your time would you estimate that you spend on the information specialist role?

And I think it probably changed a little bit from last year because this is my second year in two schools, so I've probably been able to move some time around for myself and give up some things that I liked to do and make time for other things. So, I would think that, probably about 30% of my time is information specialist.

And the same question for program administrator.

Like ordering things. Our budget is same abysmal. I'm working with the same people, so I'd say ten percent on that.

And teaching?

About 40%. That's the thing that I do a little more than information specialist. And then about 20 percent of my time is with teachers.

How do you feel about the amount of time that you spend teaching and consulting?

I wish I could do more, but that's not possible with two schools.

What do you think prevents you from spending more time teaching? Rank your top three from most to least.

Cuts in staffing. Cuts in funding makes the information specialist part not quite that important because collection development is not a big issue right now. I guess the third one would probably be getting teachers that want to work with you. I can get through kids, but I can't get them. They're happy to have me teach their kids skills and they do research with the kids, but they don't want to do anything, too. Yeah, that's the hard part.

I'm gonna ask you the same the three barriers about consulting.

Time, interest on the part of the teachers, and time again.

Do you feel that you are adequately prepared to teach, looking at your education and professional development?

Yes

And for consulting?

Yes. Do I think that the program at U of M did that? No. It prepared me for the information specialist and the program coordination. The teaching job came from the teaching certificate, so I just can't even imagine how someone with no teaching experience would handle that if they got their teaching certification in grad school and came right into a school they would just be lost. And the consulting, I think maybe they helped with that, but teaching, no. It's too theoretical.

Do you feel that you have the support of your building administrators to teach?

One I do, one I think doesn't even know what I do. There has been such a turnover of administrators. You're pretty independent, I think.

And then the same question for consulting?

Same thing. One knows what I do and the other I don't think has a clue. She came in yesterday when a teacher and I were sitting down working out a research skills module and she just, you know, she seemed surprised.

How do you feel about the quality of your teaching?

I'm 61, so for me, I don't even think about it. I just try to stay up to date on the new things. The teaching itself is just... You know middle school, what can you say, they're just tall, tall 4th graders. The teachers have to speak to them like they're adults, and teach them like their 4th graders because they're all hormones, and it works out fine. Yeah, I don't have a problem with that.

And then the same thing for consulting?

No, well, the one school is more difficult because I got the second school added two years ago. So the school I've been at for years I have great relationships with the teachers and that carries on to the new staff. The one I've only been at two years, I'm working with only maybe ten percent of the staff so far. I'm teaching more, but I'm only working with teachers about ten percent. So it's basically about getting to know people and getting them to trust you. I think it's because I'm older, so when I come in and say "I'd like to do this" or "Can we sit down and talk about it," they're a little reluctant to say, "No." So, age has its perks.

Do you feel that you have the support of your teachers to teach and to consult?

Teaching, yes. The consulting is the question mark. The other part of that with the consulting that I should have put in there but I didn't think about at the time is No Child Left behind makes the teachers very harried and overworked. It's a lot of stuff to present in a shorter amount of time, and I think they're reluctant to give up their prep time to talk to you. I think the research part of it is probably the easiest part to persuade them to get them to do it, but they really just want you to do it.

We've talked a lot about your teaching and consulting. What I'd like you to do is just briefly describe what you see as would be an ideal teaching scenario.

I would like the teacher to be in some kind of a topic that the kids are interested in and then they would come to the library and I would show them how to find information about that topic. So, rather than just, okay, it's time to teach the research paper, which doesn't work at all because they haven't even figured out their question yet, and I think that is the teacher's role, to teach them how to figure out what they want to ask. And, it's my role to show them how to look for it. So, I think basically I would like to be able to share the teaching with the teacher, have us both working together with the kids. We'd each have a defined role. The evaluation of the product should come from the teacher. The evaluation of what sources they selected should come from me. That kind of thing.

And how does this compare with what actually goes on in your school?

"It's time for the research paper", or "My kids are using Google to do such-and-such", and I'll say, "well do they know how to select the meanings" and they look at me like "What?", you know, this kind of thing, so "Oh yeah, oh, okay, you could teach them that."

I heard you talk somewhat about consulting in those scenarios because they're so closely related, but I'll ask you the same question about consulting, in case there's anything further that you'd like to add. So what would the ideal consulting look like?

Yeah, the ideal thing would have been three years ago when we had middle school and the teachers had a personal prep and a team prep, and then you could work with the time if you were going to be doing something that was two subjects or you could just meet with the individual teacher if you were just going to do something with them. Right now, we're back to the junior high mode. The kids just keep moving around. There's no connection between their classes, no integration at all. So, I think that's the hard part. Ideally, I would want to set up a meeting with maybe the 6th grade ELA teachers that all had a common prep, and we could sit down and work out, "Okay, what are you teaching and how do you want me to fit in library. You know, I'd like to teach them how to use the catalog and how to limit when they're searching on the Internet, limit domain names. So, what subject will we use, what do you want to contribute. What do you want me to do?"

Again, I heard some comparisons, but if you have anything else to add compared to what's happening in your school?

What's happening is on the days that I'm in the school, if I'm not teaching and I'm not doing the other things, I call them and sort of try to set up something for the next week, and sit down with you on your prep what is that you'd like me to do. What are you teaching right now? How could we do something in the media center to integrate with that.

What role, if any, does the nature of your school's community play in your capacity to teach, such as the relationship between the socioeconomic status and your school?

Ah right, because I'm at two extremes here. There are four middle schools and I'm at the ones with the homes and the lake and I'm also at the inner city one. So it's amazing. The older they get, the more differences there are. It's harder to keep the attention. I think the kids in the lower socioeconomic bracket are just as teachable as 6th graders, but they're not as teachable as 8th graders. The interest is just not there.

And the same question for consulting?

Consulting, it's just really an indictment of our whole education system, I think. There's a lot more interest in working with me, of course I've been here longer, too, teachers have kids who have a higher socioeconomic bracket and just have more experience, more to go on, are more willing to work with me. The others tend to think, "Well what's the use?" That's the sort of feeling you get. It's harder to sell. But I just don't know if I'd been there for 15 or 20 years if that would be true, so it's hard to really be honest about that. I see the difference in the 8th graders, but I honestly don't see any difference in the 6th graders. That's also an indictment, isn't it?

What is the nature of your position is. That is, are you a certified teacher, library media specialist, parapro..?

I have a bachelor's degree in education, and I have my library media certification from Grand Valley.

So, do you hold the ND endorsement on your teaching certificate?

Yes, I do.

In how many buildings do you work?

Just this one. It's a middle school and we have grades six, seven and eight here.

Does your library operate on a fixed or flexible or combination schedule?

Flexible.

Are you familiar with *Information Power*?

Yes.

I'm using the language from the 1988 edition of *Information Power* just because it works better with the existing literature out there, and the two primary things that I'm looking at in this study are the teaching and consulting roles of school library media specialists. And then, there the additional two roles, information specialist and program administrator. What I'd like to know is about what percentage of your time or how many hours per week you spend on each of the four roles.

It just varies so much from day to day. I guess probably I spend my most time on the information specialist. I'm kind of trying to prioritize here. Well of course the program administrator, that's all you know like right now I'm working on a program for next year. Right now that's taking a lot of my time. Well, let's see. Could I say 25 percent on each one? Let's do that, because really it's all there.

What do you think about the amount of time that you, spend teaching? Do you think it's the right amount, or would you like to do more or less?

I would like to do more.

And the same question for consulting? How do you feel about the amount

of time that you do that?

I think that's about right, because I spend a lot of time consulting with teachers, but as far as them actually turning things over to me, that doesn't happen as often as I would like.

What prevents you from spending more time teaching? And what I'd like you to try to do is rank three reasons ordered from most preventing teaching to least preventing teaching.

Well, probably the most preventing is that not all of the teachers understand that I am a certified teacher and that, you know, I can partner with them to teach in their subjects. That would be the most frustrating. It's not that I don't have the time because you always make the time when someone asks you to teach this, obviously you do. So, I guess it would be really establishing the rapport with the teachers that they can really understand that I am certified to teach also. You know, I know the learning strategies, you know, what part assessment plays and all that.

Do you find that you have a group of teachers are more willing to work with you in that respect?

Oh, definitely. Yeah. Very rarely do I see the science teachers in my library. Or the math teachers. I mean that's kind of to be expected. But, boy, you sure would think you'd see more of the science teachers.

You said that you felt that you spent about the right amount of time consulting, so there wouldn't be three reasons preventing you from consulting more.

No because I mean teachers seem to seek me out. You know, we talk about things, but as far as letting go of that, they don't do that.

Thinking about your education or professional development, or on the job experience, how adequately do you feel that you are prepared to teach?

Well, I think I'm very adequately prepared to teach. Right now I'm completing a series of classes through Michigan State on educational technology. And, so that's really helped a lot. But I do try to keep current. I try to keep, you know, I try to go to MAME and MACUL, and I bring ideas back to the building and everything, so I think I'm very well qualified to teach.

And the same question for consulting.

The same. I mean I really try to keep current. I read the journals and I try keep current on what's available and what's out there and what people are doing and

you know try to incorporate that in what I'm doing here.

Do you feel that you have the support of your building administrators to teach?

Yes, I do.

And to consult?

Yes, very much so. In this building that I'm in now, yes.

Was it different in another building?

Yes, it was different in another building. The building that I was at before, you know, the principal just didn't have a clue what went on in the library.

Do you have any thoughts about what might be the difference between those two administrators in that respect, such as age differences, gender differences, past experience?

Boy, you know what? I've never stopped to think about that. My previous principal was a man, and if it wasn't his idea, it didn't go. So, I think it was a personality thing with him. The principal that I have right now is just very willing to take a risk on things and, you know, if I go to her with an idea, she says, "Let's try it."

You've talked a lot about teachers willingness to work with you or not with respect to teaching and consulting. Overall, do you feel that you have their support to teach?

Yes, I do.

They're just not willing to let go?

They're just not willing to take that step, I think. You know, they give me a little bit. They let me teach, you know, bits and pieces, but to be honest with you, their curriculum is so jam-packed full that, you know, they're wondering how they're going to get everything in, and they know what they want to do and what they want to cover, and it really does take time to sit down with somebody and replan something like that.

And the same question for consulting?

Well, and see, in that area, they do come and say, you know, "What can we do?" or "Are there some sites we can find," or "Can you find this?" or, you know, they do seek me out a lot on that.

Could you briefly describe what you would see as being an ideal teaching scenario for you? Assume that you have all the resources that you would need and a fully supportive staff.

Well, I can give you an experience that I just had recently. One of the classes that I'm taking through Michigan State, one of the projects that we had to do was a way to use PowerPoint to set up individualized learning stations. And, it's for, you know, a student to sit down and actually work through a subject or something like that. So I did, for my project, I did, I think I did planets, or something like that, yeah, it was planets, because I knew that the sixth grade teachers were going to be working with that coming up. And so then I shared that with one of the sixth grade teachers, and she was so excited about that concept that she showed my project to her class, and then, you know, said, "This is what we're going to do," and then she brought them into the library, and we actually worked together on the students were creating their own individual learning component so that would be me ideal. To work with a teacher like that.

And, I think you've already answered the next part of this question, which is how does this compare with your actual practice, but if you have anything else to add, you can add to that.

Well that is, those opportunities are few and far between. But I find, like with that teacher, she is an experienced teacher, and I think she recognized and she's an experienced teacher that also keeps current on what's going on, and I think she recognized the value of what I was showing here, you know, the value to her students. And I think that's why it worked. Because she also is current on what's available and new teaching strategies and things like that. Does that make any sense?

And the next tough question is what would be your ideal consulting scenario, and it may be that you combined them in the previous question, which is okay.

Just that the teachers would feel free, you know, to consult with me on what they're doing and value my input, I guess.

This is the last question. What role, if any, do you think, does the nature of your school's community play in your capacity to teach? The sorts of things that I'd like you to think about there are the socioeconomic status of the community, how families perceive education, and do you think those factors play a role in your teaching?

No, I don't think so. I don't think that plays any...I mean, I just see a need, and I teach to it.

APPENDIX J
INTERVIEW QUESTIONS

Introductory Material

1. State participant number.
2. State date and time started.
3. State purpose of study.
4. State purpose of interviews.
5. Explain that participation is voluntary.
6. Remind participant that the conversation is being taped for transcription purposes only, that recording is identified only by participant number, and recording will be destroyed after completion of transcription and data analysis.

If participant wishes to participate but does not wish to be recorded, the interview will continue. The interviewer will take written notes.
7. Remind the participant that they signed a consent form and it has been received.

Questions

8. What is the nature of your position? That is, are you a certified teacher?

Paraprofessional? Volunteer?
9. If certified, do you hold ND, library media, endorsement?
10. In how many buildings do you work?
11. Does your library operate on a fixed or flexible schedule?
12. Are you familiar with *Information Power*? If no, provide brief explanation.
13. Are you familiar with *Information Power's* four responsibilities for school library media specialists? If no, briefly describe responsibilities.

14. About how many hours per week would you estimate that you spend on the information specialist role?
15. About how many hours per week would you estimate that you spend on the program administrator role?
16. About how many hours per week would you estimate that you spend on the teaching role?
17. About how many hours per week would you estimate that you spend on the instructional partnering role?
18. How do you feel about the amount of time that you spend teaching?
19. How do you feel about the amount of time that you spend instructional partnering?
20. What prevents you from spending more time teaching? Please rank the top three barriers in order, from most preventing teaching to least preventing teaching.
21. What prevents you from spending more time instructional partnering? Please rank the top three barriers in order, from most preventing instructional partnering to least preventing instructional partnering.
22. Do you feel adequately prepared to teach? to partner?
23. Do you feel that you have the support of your building administrators to teach? to partner?
24. Do you feel that you have the support of your teachers to teach? to partner?

25. How do you feel about the quality of your teaching? of your instructional partnering?
26. Briefly describe an ideal teaching scenario. How does this compare with your actual practice?
27. Briefly describe an ideal instructional partnering scenario. How does this compare with your actual practice?
28. What role, if any, does the nature of your school's community play in your capacity to teach? to partner?

Wrap-Up

29. State that interview has concluded.
30. Remind participant that contact information for study coordinator, dissertation chair and UCRIHS are on consent form.
31. Thank participant and hang up.
32. State time finished.

APPENDIX K
RASCH MODEL FIT DATA

WINSTEPS Rasch modeling software outputs several diagnostic tables that assisted me in finding items and participants that do not fit the model well. This appendix includes eighteen tables. Odd-numbered tables (K1, K3 and so on) include items listed in misfit order. Even-numbered tables include persons listed in misfit order. Each pair of tables represents the misfit data for a questionnaire item cluster. For example, Tables K1 and K2 show the misfit data for questionnaire item cluster 3 and Tables K3 and K4 show the misfit data for questionnaire item cluster 4.

The tables show that only eight items did not fit the Rasch models well, meaning that their mean square values were greater than 2.0 or less than 0.5, as discussed in Chapters 4 and 5. There were also a number of participants that did not fit the Rasch models well. To determine whether these participants were really outliers, or if there were a problem with the questionnaire or survey procedure, ten participants were selected at random from the tails of both tables to be interviewed. The interview data indicate that these participants really do fall at the extremes of instructional practice, as discussed in Chapter 5.

Table K1

Rasch Model Item Misfit for Item Cluster 3: Ideal Information Specialist

Item	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
3.3	204	64.24	1.22	2.88	9.3	3.12	9.8	A.14
3.2	267	57.11	1.08	2.4	9.2	2.57	9.6	B.31
3.16	410	31.64	2.29	1.45	1.5	1.67	1.8	C.31
3.6	203	65.39	1.24	1.54	3.4	1.43	2.7	D.47
3.1	429	22.75	3.68	1.24	0.7	0.54	-0.9	E.37
3.7	363	44.6	1.29	1.19	1.3	1.18	1.1	F.36
3.8	323	49.78	1.13	0.9	-0.8	0.97	-0.2	G.44
3.17	364	40.69	1.52	0.83	-1	0.92	-0.3	H.47
3.20	358	42.8	1.4	0.9	-0.6	0.8	-1.1	I.53
3.4	249	59.22	1.1	0.84	-1.4	0.82	-1.5	J.51
3.12	275	55.07	1.09	0.8	-1.9	0.82	-1.6	K.54
3.10	354	44.81	1.29	0.73	-2.1	0.79	-1.3	j.48
3.18	259	56.67	1.1	0.79	-2	0.79	-1.9	i.41
3.9	387	39.72	1.56	0.78	-1.2	0.77	-1	h.50
3.21	379	39.7	1.56	0.77	-1.3	0.7	-1.4	g.45
3.15	341	48.14	1.16	0.69	-2.9	0.71	-2.4	f.40
3.19	306	51.36	1.11	0.64	-3.7	0.65	-3.3	e.53
3.13	258	57.81	1.09	0.64	-3.6	0.64	-3.4	d.40
3.14	244	59.5	1.11	0.6	-3.9	0.63	-3.4	c.35
3.5	209	64.44	1.21	0.59	-3.6	0.56	-3.6	b.55
3.11	285	54.58	1.08	0.52	-5.4	0.52	-5.1	a.52
Mean	308	50	1.4	1.03	-0.5	1.03	-0.4	
Std. Deviation	67.6	10.95	0.58	0.59	3.7	0.66	3.7	

Table K2

Rasch Model Person Misfit for Item Cluster 3: Ideal Information Specialist

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2003	61	62.6	3.04	2.86	4	6.99	5.2	A.21
750	39	40.15	3.07	2.37	3.1	3.79	4.7	B.24
7048	64	59.64	2.78	2.26	3.3	3.27	3.4	C.41
3987	54	52.2	2.71	2.56	3.9	2.26	2.8	D.52
5954	78	73.83	4.04	2.33	2.3	1.38	0.7	E.32
3295	60	56.61	2.72	2.32	3.4	1.97	2.1	F.54
2014	66	61.22	2.83	2.31	3.3	2.19	2.1	G.46
4979	50	72.2	4.14	1.88	1.7	2.03	1.2	H.13
3146	45	50.11	2.9	1.89	2.4	2.03	2.3	I.56
2579	44	61.51	3.62	2	2.1	1.38	0.7	J.60
1367	60	56.61	2.72	2	2.8	1.88	1.9	K.48
335	53	55.61	2.85	1.21	0.8	1.96	2	L.40
2506	69	66.51	3.27	1.95	2.3	1.45	0.8	M.45
3157	79	75.6	4.38	1.93	1.6	1.01	0.3	N.33
4049	48	47.71	2.77	1.21	0.8	1.82	2.1	O.63
5328	59	55.87	2.72	1.66	2	1.78	1.8	P.22
3388	63	58.87	2.76	1.67	2	1.76	1.6	Q.42
3811	72	66.49	3.13	1.73	1.9	1.56	1	R.43
3263	68	62.87	2.9	1.42	1.3	1.68	1.3	S.32
2443	56	56.23	2.78	1.42	1.4	1.63	1.5	T.48
3387	52	50.72	2.72	1.23	0.8	1.47	1.3	U.37
4434	45	45.35	2.84	1.22	0.8	1.43	1.2	V.47

Table K2 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
4771	63	61.97	2.87	1.21	0.7	1.42	0.9	W.46
1486	58	55.14	2.71	1.41	1.3	1.2	0.6	X.62
2324	56	53.67	2.71	1.38	1.3	1.38	1.1	Y.44
596	58	55.14	2.71	1.34	1.2	1.26	0.8	Z.55
BETTER FITTING DATA OMITTED								
5411	61	57.36	2.73	0.62	-1.4	0.61	-1	z.72
6108	60	56.61	2.72	0.61	-1.4	0.59	-1.1	y.75
3676	66	61.22	2.83	0.61	-1.4	0.51	-1.1	x.74
4132	65	60.43	2.81	0.6	-1.5	0.5	-1.2	w.75
324	67	62.04	2.87	0.52	-1.9	0.6	-0.8	v.60
3511	59	55.87	2.72	0.58	-1.6	0.53	-1.3	u.84
283	45	47.58	2.87	0.58	-1.5	0.55	-1.4	t.79
573	54	52.2	2.71	0.57	-1.7	0.54	-1.4	s.79
4632	59	55.87	2.72	0.57	-1.7	0.55	-1.3	r.77
1243	62	58.11	2.75	0.56	-1.7	0.49	-1.4	q.79
4217	66	61.22	2.83	0.56	-1.7	0.46	-1.3	p.72
1117	60	56.61	2.72	0.54	-1.8	0.48	-1.5	o.80
1867	60	56.61	2.72	0.53	-1.8	0.51	-1.4	n.80
1814	60	56.61	2.72	0.5	-2	0.49	-1.5	m.75
5200	51	49.98	2.73	0.47	-2.2	0.46	-1.9	l.83
3049	53	51.46	2.71	0.42	-2.5	0.45	-1.9	k.79
928	57	54.4	2.71	0.44	-2.3	0.44	-1.8	j.85
854	57	54.4	2.71	0.44	-2.3	0.4	-2	i.82

Table K2 continued

			Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
Person	Raw Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
4228	50	53.61	2.89	0.44	-2.2	0.44	-1.7	h.86
2931	62	58.11	2.75	0.42	-2.5	0.38	-1.8	g.84
3016	52	50.72	2.72	0.42	-2.5	0.41	-2.1	f.86
4802	57	54.4	2.71	0.39	-2.6	0.4	-2	e.85
4696	55	57.41	2.88	0.4	-2.5	0.38	-1.8	d.84
5127	57	54.4	2.71	0.35	-2.9	0.34	-2.3	c.85
2730	57	54.4	2.71	0.34	-3	0.34	-2.3	b.86
4643	53	51.46	2.71	0.32	-3.1	0.32	-2.6	a.85
Mean	59.3	57.59	2.88	1.04	-0.1	1.04	-0.1	
Std. Deviation	7.5	5.94	0.29	0.54	1.6	0.81	1.4	

Table K3

Rasch Model Item Misfit for Item Cluster 4: Actual Information Specialist

Item	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
4.2	208	61.91	1.05	1.99	6	2.28	5.5	A.42
4.3	152	69.57	1.34	2	4.3	2.25	3.8	B.51
4.8	304	52.63	1.03	1.57	3.9	2.19	4.9	C.39
4.6	221	61.3	1.02	1.53	3.8	1.41	2.3	D.53
4.1	403	32.4	2.88	1.37	0.9	0.78	-0.2	E.27
4.16	375	42.24	1.56	1.28	1.2	1.07	0.3	F.39
4.7	348	47.51	1.21	1.22	1.3	1.17	0.7	G.42
4.12	272	55.21	1.02	1	0	0.98	0	H.54
4.2	357	44.69	1.4	0.97	-0.1	0.94	-0.1	I.45
4.4	279	55.56	0.99	0.93	-0.6	0.82	-1.1	J.61
4.5	230	60	1.01	0.87	-1.1	0.8	-1.3	K.63
4.14	280	54.57	1.02	0.67	-3	0.86	-0.8	j.55
4.18	332	49.5	1.13	0.81	-1.3	0.85	-0.6	i.52
4.1	367	43.23	1.49	0.67	-1.7	0.84	-0.3	h.45
4.19	337	49.24	1.13	0.77	-1.7	0.73	-1.2	g.53
4.13	299	52.56	1.05	0.66	-3	0.75	-1.4	f.57
4.9	381	40.63	1.69	0.68	-1.4	0.52	-1.3	e.45
4.21	379	41.22	1.64	0.64	-1.6	0.45	-1.6	d.48
4.11	320	51.28	1.06	0.59	-3.6	0.61	-2.2	c.58
4.17	379	40.19	1.76	0.59	-1.8	0.4	-1.7	b.48
4.15	353	44.54	1.4	0.47	-3.3	0.42	-2.2	a.55
Mean	313.1	50	1.33	1.01	-0.1	1	0.1	
Std. Deviation	65.6	8.7	0.43	0.44	2.7	0.56	2.2	

Table K4

Rasch Model Person Misfit for Item Cluster 4: Actual Information Specialist

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
4111	56	53.17	2.42	1.66	1.9	4.1	4.2	A.50
2003	69	59.76	2.66	2.42	3.1	3.98	3.1	B.23
750	39	42.59	2.5	0.87	-0.4	3.74	3.7	C.31
2335	81	73.75	5.03	2.5	1.7	3.34	1.6	D.07
2443	68	60.67	2.88	2.26	2.5	2.63	1.9	E.31
418	57	58.28	2.82	2.51	3.1	2.38	1.8	F.35
2387	57	53.81	2.45	2.12	2.9	2.38	2.4	G.19
4675	54	50.92	2.31	1.66	2	2.24	2.5	H.29
335	72	62.03	2.86	2.16	2.4	1.41	0.8	I.41
1367	72	62.03	2.86	2.12	2.4	1.4	0.7	J.42
5328	63	55.91	2.43	1.41	1.3	2.07	1.9	K.10
5316	72	65.69	3.33	2.03	1.9	1.91	1.1	L.16
2014	45	46.09	2.35	2	2.8	1.81	1.7	M.46
4979	78	68.27	3.73	1.99	1.6	1.68	0.9	N.15
324	77	66.96	3.51	1.92	1.6	0.82	0.1	O.40
489	62	55.33	2.4	1.27	0.9	1.86	1.6	P.45
2324	72	62.03	2.86	1.82	1.9	1.58	0.9	Q.23
5127	74	63.77	3.05	1.21	0.6	1.73	1	R.50
1730	71	61.24	2.78	1.69	1.7	1.41	0.8	S.26
2753	63	55.91	2.43	1.36	1.2	1.64	1.3	T.51
4028	70	60.48	2.72	1.63	1.6	1.06	0.3	U.54
397	67	58.4	2.56	1.63	1.7	1.53	1	V.40

Table K4 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
1243	59	53.63	2.35	1.11	0.5	1.6	1.3	W.58
1814	75	64.74	3.18	1.59	1.3	1.09	0.4	X.50
261	77	66.96	3.51	1.49	1	0.79	0.1	Y.35
1972	50	49.41	2.31	0.89	-0.3	1.46	1.2	Z.29
BETTER FITTING DATA OMITTED								
4310	59	53.63	2.35	0.72	-1	0.61	-0.9	z.77
3049	73	62.87	2.95	0.72	-0.7	0.39	-0.8	y.74
3016	61	54.75	2.38	0.71	-1	0.56	-1	x.77
3104	38	41.96	2.54	0.49	-1.9	0.7	-0.5	w.56
1106	59	53.63	2.35	0.69	-1.1	0.62	-0.9	v.76
3676	63	55.91	2.43	0.69	-1.1	0.5	-1.1	u.78
5241	47	47.18	2.33	0.68	-1.2	0.57	-1.1	t.76
4696	68	60.1	2.74	0.67	-0.9	0.52	-0.7	s.63
1698	54	52.82	2.38	0.65	-1.3	0.57	-1	r.79
2816	80	71.54	4.43	0.64	-0.4	0.25	-0.5	q.59
647	70	60.48	2.72	0.61	-1.2	0.39	-1	p.74
4802	44	45.53	2.37	0.6	-1.5	0.48	-1.4	o.71
4332	51	49.33	2.3	0.59	-1.6	0.56	-1.2	n.77
4632	57	52.54	2.33	0.5	-2.1	0.45	-1.6	m.81
1368	65	57.12	2.49	0.47	-2	0.36	-1.5	l.83
4434	37	41.3	2.59	0.38	-2.5	0.47	-1.2	k.75
4917	64	56.51	2.46	0.44	-2.2	0.42	-1.3	j.79
2422	52	49.86	2.3	0.42	-2.5	0.4	-1.9	i.83

Table K4 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2730	59	53.63	2.35	0.41	-2.5	0.35	-1.9	h.84
258	57	53.46	2.4	0.39	-2.7	0.37	-1.8	g.79
5200	51	51.25	2.35	0.38	-2.8	0.37	-1.9	f.80
3511	57	52.54	2.33	0.35	-3	0.36	-2	e.81
3048	56	52	2.32	0.33	-3.1	0.31	-2.2	d.86
283	44	47.05	2.42	0.3	-3.2	0.28	-2.3	c.85
2931	62	55.33	2.4	0.27	-3.5	0.25	-2.2	b.89
4132	66	57.75	2.52	0.24	-3.4	0.22	-2	a.89
Mean	64.3	59.69	3.58	1.08	0	1.01	0	
Std. Deviation	11.6	9.97	3.27	0.52	1.5	0.77	1.2	

Table K5

Rasch Model Item Misfit for Item Cluster 5: Ideal Program Administrator

Item	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5.1.1	409	35.25	2.41	1.18	0.8	3	3.7	A.28
5.1.10	243	67.5	1.18	1.1	0.8	1.47	3.1	B.57
5.1.7	340	54.14	1.3	1.08	0.6	1.29	1.7	C.55
5.1.4	385	44.64	1.68	1.11	0.6	1.27	1.1	D.31
5.1.11	233	68.93	1.2	1.13	1	1.11	0.8	E.56
5.1.9	386	44.36	1.7	1.06	0.4	1.09	0.5	F.41
5.1.12	350	52.86	1.32	0.99	0	0.92	-0.4	G.58
5.1.5	363	49.89	1.43	0.94	-0.3	0.86	-0.7	f.58
5.1.3	382	44.43	1.7	0.88	-0.6	0.94	-0.2	e.46
5.1.6	355	51.46	1.38	0.9	-0.7	0.78	-1.3	d.62
5.1.13	222	71.24	1.21	0.87	-1.1	0.88	-0.8	c.55
5.1.2	414	31.93	2.78	0.84	-0.5	0.44	-1.5	b.46
5.1.8	412	33.37	2.61	0.82	-0.6	0.69	-0.7	a.42
Mean	345.7	50	1.68	0.99	0	1.13	0.4	
Std. Deviation	65.9	12.57	0.54	0.12	0.7	0.6	1.6	

Table K6

Rasch Model Person Misfit for Item Cluster 5: Ideal Program Administrator

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
3157	46	71.11	4.78	3.59	3.4	9.9	5.1	A.07
2014	51	91.46	10.18	1.22	0.6	9.17	2.3	B-.34
2003	21	33.3	4.19	2.26	2.3	4.91	3.4	C.13
3811	40	59.99	3.96	4.26	4.5	3.57	3.3	D.07
1367	49	79.69	6.17	3.65	2.7	3.86	1.9	E.09
4979	42	63.28	4.15	3.82	4	3.74	3.1	F.14
647	44	66.92	4.4	3.79	3.8	3.81	2.8	G-.09
2753	39	58.46	3.88	2.83	3.1	2.78	2.7	H.17
1719	40	59.99	3.96	2.47	2.6	2.35	2.1	I.38
3294	42	63.28	4.15	2.36	2.4	1.96	1.5	J.22
1483	47	73.53	5.08	0.95	0.1	2.34	1.4	K.25
4885	47	73.53	5.08	1.77	1.4	2.18	1.3	L.37
5106	49	79.69	6.17	1.03	0.3	2.16	1.2	M.15
1486	40	59.99	3.96	2	2	1.75	1.4	N.42
1972	42	63.28	4.15	1.95	1.8	1.8	1.3	O.35
4332	47	73.53	5.08	1.79	1.4	1.55	0.8	P.39
596	45	68.93	4.57	1.79	1.5	0.91	0.1	Q.64
5200	45	68.93	4.57	1.79	1.5	0.91	0.1	R.64
418	45	68.93	4.57	1	0.2	1.75	1.1	S.43
3388	45	68.93	4.57	1.65	1.3	1.51	0.9	T.12
7229	40	59.99	3.96	1.64	1.4	1.59	1.2	U.45
261	41	72.97	6.43	1.59	1	1.21	0.5	V.16

Table K6 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
3987	47	73.53	5.08	1.48	1	1.04	0.3	W.53
4228	37	55.55	3.75	1.47	1.2	1.13	0.4	X.81
750	36	54.16	3.7	1.26	0.8	1.46	1.1	Y.40
4696	48	76.32	5.5	1.43	0.9	0.55	-0.2	Z.61
BETTER FITTING DATA OMITTED								
573	39	58.46	3.88	0.51	-1.3	0.47	-1.2	z.89
3676	45	68.93	4.57	0.44	-1.3	0.5	-0.6	y.80
2324	42	63.28	4.15	0.5	-1.2	0.45	-1.1	x.83
4195	38	67.14	4.96	0.45	-1.2	0.49	-0.6	w.78
2443	35	52.81	3.66	0.38	-2	0.49	-1.3	v.83
1106	35	52.81	3.66	0.49	-1.5	0.47	-1.4	u.92
4049	44	66.92	4.4	0.43	-1.4	0.36	-1.1	t.84
854	46	71.11	4.78	0.41	-1.4	0.32	-1	s.81
3511	7	53.98	6.87	0.36	-1	0.4	-0.7	r.93
1677	41	61.6	4.05	0.39	-1.7	0.36	-1.4	q.89
2676	32	48.87	3.59	0.29	-2.6	0.37	-1.9	p.88
2105	43	65.05	4.26	0.29	-2.1	0.35	-1.3	o.87
1243	45	68.93	4.57	0.35	-1.7	0.29	-1.2	n.86
4643	45	68.93	4.57	0.35	-1.7	0.29	-1.2	m.86
5127	40	59.99	3.96	0.34	-2	0.32	-1.7	l.89
5328	48	76.32	5.5	0.33	-1.4	0.18	-1	k.80
5189	47	73.53	5.08	0.33	-1.6	0.3	-0.9	j.80
5241	47	73.53	5.08	0.33	-1.6	0.3	-0.9	i.80

Table K6 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
43	45	68.93	4.57	0.32	-1.8	0.27	-1.3	h.87
258	45	68.93	4.57	0.32	-1.8	0.27	-1.3	g.87
3048	42	67.98	4.93	0.31	-1.7	0.28	-1.2	f.86
1212	42	63.28	4.15	0.26	-2.3	0.3	-1.6	e.89
324	49	79.69	6.17	0.14	-1.9	0.1	-1	d.84
2730	49	79.69	6.17	0.14	-1.9	0.1	-1	c.84
2848	49	79.69	6.17	0.14	-1.9	0.1	-1	b.84
4132	49	79.69	6.17	0.14	-1.9	0.1	-1	a.84
Mean	41.7	64.98	4.68	1	-0.2	1.11	0	
Std. Deviation	6.2	10.14	1.7	0.82	1.5	1.44	1.2	

Table K7

Rasch Model Item Misfit for Item Cluster 5: Ideal Teacher

Item	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5.2.3	319	54.02	1.2	2.14	6.1	2.7	6.8	A.17
5.2.2	390	40.44	1.84	1.41	1.7	2.16	3	B.49
5.2.1	379	42.68	1.72	1.6	2.5	1.31	1.1	C.52
5.2.8	191	67.97	1.15	0.99	0	1.55	2.6	D.42
5.2.6	232	64.75	1.07	0.86	-1.2	1.18	1.1	E.50
5.2.4	393	37.93	2.01	1.14	0.7	1.04	0.2	F.58
5.2.5	288	57.77	1.11	1.12	1	1.11	0.7	G.62
5.2.10	392	38.35	1.98	0.94	-0.2	0.55	-1.5	g.68
5.2.12	370	45.2	1.59	0.9	-0.4	0.61	-1.7	f.73
5.2.9	367	45.03	1.61	0.82	-0.9	0.68	-1.3	e.72
5.2.14	341	51.18	1.31	0.81	-1.2	0.75	-1.3	d.68
5.2.11	337	50.13	1.38	0.78	-1.3	0.7	-1.5	c.70
5.2.7	263	60.93	1.06	0.68	-3.1	0.75	-1.8	b.63
5.2.13	376	43.61	1.67	0.75	-1.3	0.45	-2.5	a.75
Mean	331.3	50	1.48	1.07	0.2	1.11	0.3	
Std. Deviation	62.3	9.46	0.33	0.39	2.1	0.63	2.4	

Table K8

Rasch Model Person Misfit for Item Cluster 5: Ideal Teacher

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5043	54	78.29	6.92	2.15	1.3	8.68	3	A-.28
2387	45	60.02	3.54	3.41	3.8	6.36	4.8	B-.17
2003	28	42.72	3.11	2	2.4	4.23	3.8	C-.06
1367	39	53.27	3.2	3.45	4.1	4.12	4.2	D.12
3388	51	69.32	4.56	1.37	0.8	3.49	2.2	E.02
596	40	54.31	3.24	3.46	4.1	3.22	3.3	F.19
3295	23	37.47	3.44	2.02	2.2	3.34	2.5	G.16
2676	38	52.26	3.16	2.3	2.7	3.06	3.3	H-.06
1486	32	46.5	3.06	1.6	1.6	3.04	3.2	I.18
3157	53	74.4	5.68	2.81	2	1.92	1.1	J.23
2538	23	37.47	3.44	2.33	2.6	2.63	2	K.28
3811	31	45.56	3.06	1.96	2.3	2.39	2.4	L.34
3987	43	57.61	3.4	2.22	2.4	2.22	2	M.49
4885	38	58.73	3.9	2.19	2.1	1.46	0.9	N.59
2421	24	38.62	3.34	1.82	1.9	2.13	1.6	O.36
7048	26	40.74	3.19	2.11	2.5	2.07	1.7	P.42
2753	23	38.7	3.34	1.04	0.2	1.97	1.5	Q.20
2816	25	39.7	3.25	1.61	1.6	1.86	1.4	R.41
4979	48	64.11	3.87	1.82	1.6	1.1	0.4	S.58
1719	49	65.67	4.04	1.67	1.4	0.95	0.2	T.57
261	41	58.81	3.68	1.66	1.4	1.32	0.7	U.55
283	40	54.31	3.24	1.21	0.6	1.63	1.3	V.66

Table K8 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
928	45	60.02	3.54	1.62	1.4	1.36	0.8	W.52
1972	53	74.4	5.68	0.96	0.2	1.6	0.8	X.36
3739	47	62.66	3.74	0.95	0	1.5	0.9	Y.59
1368	48	64.11	3.87	1.48	1.1	0.78	-0.1	Z.64
BETTER FITTING DATA OMITTED								
3146	44	66.97	5.06	0.59	-0.6	0.32	-0.8	z.81
5189	49	65.67	4.04	0.56	-0.9	0.4	-0.9	y.79
1867	44	58.79	3.46	0.54	-1.2	0.48	-1.1	x.77
1483	46	61.3	3.63	0.5	-1.3	0.52	-0.8	w.77
3511	47	62.66	3.74	0.52	-1.2	0.43	-1	v.84
3614	47	79.8	9.83	0.48	-0.1	0.15	-0.4	u.66
2105	47	62.66	3.74	0.24	-2.5	0.47	-0.9	t.84
1730	49	65.67	4.04	0.43	-1.4	0.31	-1.2	s.84
2208	51	69.32	4.56	0.43	-1.2	0.25	-1.1	r.80
1212	46	61.3	3.63	0.28	-2.3	0.41	-1.1	q.83
4195	47	62.66	3.74	0.28	-2.2	0.41	-1.1	p.85
4917	52	71.59	5	0.31	-1.4	0.4	-0.6	o.73
3676	47	62.66	3.74	0.39	-1.7	0.32	-1.3	n.88
2931	46	61.3	3.63	0.37	-1.8	0.34	-1.4	m.89
3016	46	61.3	3.63	0.32	-2.1	0.35	-1.3	l.88
2410	42	56.48	3.34	0.25	-2.7	0.35	-1.6	k.89
854	52	71.59	5	0.35	-1.3	0.19	-1.1	j.79
2281	52	71.59	5	0.35	-1.3	0.19	-1.1	i.79

Table K8 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5328	50	67.38	4.26	0.34	-1.7	0.25	-1.2	h.83
4632	48	64.11	3.87	0.31	-2	0.28	-1.4	g.88
5127	48	64.11	3.87	0.31	-2	0.3	-1.3	f.85
4749	50	67.38	4.26	0.3	-1.8	0.3	-1.1	e.81
418	45	60.02	3.54	0.29	-2.3	0.28	-1.7	d.92
3048	48	64.11	3.87	0.29	-2.1	0.25	-1.5	c.89
5241	48	68.44	4.98	0.27	-1.5	0.28	-1	b.80
4643	45	62.58	4	0.22	-2.3	0.22	-1.6	a.91
Mean	43.7	60.86	4.36	1	-0.1	1.1	0	
Std. Deviation	8.4	11.43	2.49	0.7	1.4	1.24	1.3	

Table K9

Rasch Model Item Misfit for Item Cluster 5: Ideal Instructional Partner

Item	Raw		Model S.E.	Infit		Outfit		Point Measure Correlation
				Mean	Z	Mean	Z	
	Score	Measure		Squares	Std.	Squares	Std.	
5.3.1	328	41.05	1.89	2.15	4.8	3.04	5.7	A.44
5.3.4	253	60.05	1.43	1.09	0.7	1.45	2.4	B.72
5.3.2	321	43.42	1.8	1.33	1.8	1.16	0.8	C.67
5.3.9	303	48.68	1.63	1.07	0.5	0.84	-0.8	D.74
5.3.7	312	46.17	1.71	1.05	0.3	0.88	-0.6	E.73
5.3.5	285	52.37	1.55	0.79	-1.4	0.75	-1.5	d.78
5.3.8	286	52.92	1.53	0.73	-1.9	0.66	-2.2	c.80
5.3.3	298	49.98	1.6	0.59	-3	0.56	-2.9	b.81
5.3.6	272	55.35	1.5	0.54	-3.7	0.58	-2.9	a.83
Mean	295.3	50	1.63	1.04	-0.2	1.1	-0.2	
Std. Deviation	22.6	5.61	0.14	0.46	2.5	0.74	2.6	

Table K10

Rasch Model Person Misfit for Item Cluster 5: Ideal Instructional Partner

Person	Raw		Model S.E.	Infit		Outfit		Point Measure Correlation
				Mean	Z	Mean	Z	
	Score	Measure		Squares	Std.	Squares	Std.	
283	14	34.23	4.77	3.14	3.1	6.01	4.5	A-.65
1677	34	78.07	7.74	2.51	1.8	5.07	3.2	B-.56
1814	34	78.07	7.74	2.51	1.8	5.07	3.2	C-.56
4675	32	69.16	5.88	3.45	3	4.81	4	D-.49
3157	21	46.54	3.96	3.88	4.5	4.11	4.7	E-.31
4217	33	73.01	6.57	2.09	1.6	3.46	2.7	F-.44
3263	35	86.02	10.48	1.16	0.5	2.62	1.4	G-.56
2443	31	65.99	5.41	1.79	1.4	2.33	2.1	H-.58
5200	29	60.84	4.79	1.94	1.7	2.24	2	I.32
2421	12	28.75	5.83	2.09	1.5	1.22	0.5	J.56
4696	32	69.16	5.88	2.03	1.7	1.43	0.9	K.74
596	20	44.97	3.97	1.98	2.1	1.92	2	L.63
5328	31	65.99	5.41	1.78	1.4	1.94	1.6	M.08
418	30	63.26	5.06	1.48	1	1.85	1.5	N-.44
647	15	36.37	4.49	1.83	1.7	1.44	0.9	O.74
1367	19	43.39	4	1.83	1.9	1.76	1.7	P.33
5241	34	78.07	7.74	1.18	0.5	1.73	1.1	Q-.43
1972	31	65.99	5.41	1.67	1.2	1.63	1.2	R-.34
2805	19	43.39	4	1.65	1.5	1.57	1.4	S.80
4028	27	64.03	5.5	1.64	1.2	1.34	0.8	T.65
2953	34	78.07	7.74	0.88	0	1.38	0.7	U.05
4332	34	78.07	7.74	0.88	0	1.38	0.7	V.05

Table K10 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
3104	20	44.97	3.97	1.38	1	1.34	0.9	W.52
2281	28	58.66	4.57	1.04	0.3	1.33	0.8	X.15
1719	30	63.26	5.06	1.29	0.7	1.33	0.8	Y.45
3295	11	24.7	7.01	1.32	0.6	0.73	0	Z.56
BETTER FITTING DATA OMITTED								
5316	31	65.99	5.41	0.52	-0.9	0.59	-0.7	z.45
928	28	58.66	4.57	0.57	-0.9	0.59	-0.8	y.75
2753	20	44.97	3.97	0.57	-1.2	0.57	-1.2	x.31
1485	30	63.26	5.06	0.55	-0.9	0.53	-1	w.79
2931	31	65.99	5.41	0.48	-1	0.53	-0.9	v.52
3048	33	73.01	6.57	0.53	-0.8	0.48	-0.9	u.75
4885	33	73.01	6.57	0.53	-0.8	0.48	-0.9	t.75
750	30	63.26	5.06	0.41	-1.3	0.51	-1	s.44
2739	28	58.66	4.57	0.47	-1.2	0.5	-1.1	r.40
2677	30	63.26	5.06	0.44	-1.2	0.5	-1.1	q.41
1867	30	63.26	5.06	0.43	-1.3	0.49	-1.1	p.44
2816	23	49.7	4.01	0.45	-1.6	0.47	-1.5	o.59
4228	28	66.85	5.96	0.41	-1.2	0.44	-1.1	n.74
4749	30	63.26	5.06	0.38	-1.4	0.42	-1.3	m.55
5411	27	56.65	4.4	0.37	-1.7	0.39	-1.5	l.76
3387	28	58.66	4.57	0.34	-1.7	0.39	-1.5	k.63
3676	31	65.99	5.41	0.35	-1.5	0.39	-1.4	j.77
2676	21	46.54	3.96	0.36	-2.1	0.37	-2	i.66

Table K10 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
4643	31	65.99	5.41	0.33	-1.6	0.36	-1.5	h.82
1212	28	58.66	4.57	0.32	-1.8	0.36	-1.6	g.08
5976	22	48.11	3.98	0.27	-2.6	0.3	-2.3	f.82
2579	28	58.66	4.57	0.21	-2.4	0.24	-2.2	e.89
3049	22	48.11	3.98	0.21	-2.9	0.2	-2.9	d.65
1698	28	58.66	4.57	0.18	-2.5	0.21	-2.3	c.56
4434	26	54.78	4.26	0.11	-3.3	0.12	-3.2	b.63
4049	25	53.01	4.15	0.11	-3.5	0.11	-3.4	a.73
Mean	28.8	65.82	7.56	1	-0.1	1.1	0	
Std. Deviation	6.7	19.49	4.68	0.7	1.4	1.1	1.5	

Table K11

Rasch Model Item Misfit for Item Cluster 6: Actual Program Administrator

Item	Raw		Model S.E.	Infit		Outfit		Point Measure Correlation
				Mean	Z	Mean	Z	
	Score	Measure		Squares	Std.	Squares	Std.	
6.1.13	167	61.22	1.07	1.63	3	1.63	2	A.34
6.1.11	180	59.97	1	1.35	1.9	1.1	0.5	B.40
6.1.1	394	45.38	0.85	1.06	0.5	1.33	1.9	C.51
6.1.8	453	39.6	1.11	1.33	1.6	1.17	0.8	D.55
6.1.10	176	60.05	1.01	1.21	1.2	0.91	-0.3	E.45
6.1.12	373	46.83	0.81	1.11	0.9	0.98	0	F.57
6.1.9	357	47.66	0.8	1.11	0.9	1.1	0.7	G.52
6.1.6	323	49.56	0.78	0.87	-1.1	0.98	-0.1	f.56
6.1.7	261	53.75	0.8	0.9	-0.8	0.85	-1	e.53
6.1.2	414	43.54	0.92	0.85	-1	0.89	-0.5	d.58
6.1.5	303	50.89	0.78	0.83	-1.6	0.87	-1	c.58
6.1.4	389	45.53	0.85	0.73	-2.2	0.79	-1.3	b.58
6.1.3	379	46.01	0.84	0.71	-2.4	0.79	-1.4	a.59
Mean	320.7	50	0.89	1.05	0.1	1.03	0	
Std. Deviation	92.8	6.59	0.11	0.26	1.6	0.23	1.1	

Table K12

Rasch Model Person Misfit for Item Cluster 6: Actual Program Administrator

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2753	26	41.72	2.47	2.19	2.6	5.01	3.4	A.03
5043	42	50.64	2.44	2.78	3.1	3.78	3.8	B-.24
4979	55	60.08	3.06	3.39	3.5	3.6	2.8	C-.05
3157	53	58.32	2.88	3.11	3.4	3.59	3	D.25
3811	36	47.96	2.37	2.4	2.9	3.33	3.4	E.06
1367	48	54.52	2.64	2.56	2.7	2.63	2.4	F-.06
3987	37	47.79	2.33	2.54	3.2	2.61	2.5	G.25
2953	51	56.72	2.77	2.08	2.1	2.56	2.2	H.36
3388	51	56.72	2.77	2.48	2.6	2.41	2	I-.31
324	40	49.47	2.39	1.69	1.6	2.23	2.1	J.44
2335	47	53.83	2.61	2.18	2.2	1.98	1.7	K.52
4885	60	66.25	4.22	2.05	1.4	0.97	0.2	L.48
5106	49	55.23	2.68	1.88	1.8	2.03	1.7	M.06
647	47	53.83	2.61	1.81	1.6	1.93	1.6	N.02
4310	41	50.05	2.42	1.18	0.6	1.88	1.7	O.36
335	29	43.47	2.36	1.85	2.2	1.45	0.9	P.50
5200	47	61.02	3.37	1.82	1.5	0.96	0.2	Q.66
2677	21	38.19	2.91	1.71	1.4	1.34	0.6	R.41
489	41	50.05	2.42	1.67	1.6	1.42	1	S.69
3037	32	45.1	2.31	1.65	1.8	1.35	0.8	T.45
1972	50	55.97	2.72	1.6	1.3	1.46	0.9	U.24
596	46	53.16	2.57	1.59	1.3	1.58	1.2	V.45

Table K12 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2538	22	39	2.78	1.57	1.2	1.03	0.3	W.36
283	30	44.02	2.34	1.53	1.5	1.44	0.9	X.35
4111	17	33.75	3.95	1.52	0.9	0.55	-0.1	Y.46
2422	43	51.24	2.47	1.34	0.9	1.47	1	Z.49
BETTER FITTING DATA OMITTED								
2281	35	46.71	2.31	0.56	-1.4	0.47	-1.2	z.82
3739	43	51.24	2.47	0.54	-1.2	0.54	-1	y.85
4332	29	43.47	2.36	0.54	-1.6	0.47	-0.9	x.64
6108	36	47.25	2.32	0.51	-1.6	0.47	-1.2	w.84
4643	55	60.08	3.06	0.51	-1.2	0.46	-0.9	v.79
7229	40	49.47	2.39	0.47	-1.6	0.42	-1.5	u.84
3016	29	43.47	2.36	0.46	-1.9	0.47	-0.9	t.68
1368	44	51.87	2.51	0.42	-1.6	0.46	-1.3	s.89
2931	28	42.9	2.39	0.46	-1.9	0.36	-1.2	r.69
4195	33	47.73	2.42	0.45	-1.8	0.41	-1.4	q.85
5954	25	44.49	2.64	0.45	-1.7	0.36	-1.1	p.79
3263	38	48.34	2.35	0.35	-2.3	0.42	-1.4	o.81
397	30	44.02	2.34	0.41	-2.2	0.39	-1.2	n.73
1486	40	49.47	2.39	0.4	-1.9	0.39	-1.6	m.90
3676	30	44.02	2.34	0.39	-2.3	0.32	-1.5	l.75
3511	44	51.87	2.51	0.39	-1.8	0.37	-1.6	k.86
1106	32	45.1	2.31	0.35	-2.6	0.28	-1.8	j.81
1485	43	51.24	2.47	0.3	-2.2	0.34	-1.8	i.94

Table K12 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
258	43	51.24	2.47	0.27	-2.4	0.28	-2	h.89
4675	29	43.47	2.36	0.26	-3.1	0.23	-1.8	g.80
5189	43	51.24	2.47	0.25	-2.5	0.24	-2.3	f.87
4802	35	46.71	2.31	0.24	-3.2	0.24	-2.1	e.87
5316	40	49.47	2.39	0.19	-3.2	0.21	-2.5	d.93
2105	35	46.71	2.31	0.14	-4.1	0.16	-2.6	c.93
1117	39	48.9	2.37	0.12	-3.9	0.14	-3	b.94
5328	32	45.1	2.31	0.04	-5.9	0.06	-3.2	a.97
Mean	38.6	48.7	2.94	1.05	-0.2	1.03	-0.1	
Std. Deviation	9.7	7.84	2.37	0.67	1.7	0.84	1.4	

Table K13

Rasch Model Item Misfit for Item Cluster 6: Actual Teacher

Item	Raw		Model S.E.	Infit		Outfit		Point Measure Correlation
				Mean	Z	Mean	Z	
	Score	Measure		Squares	Std.	Squares	Std.	
6.2.3	381	46.16	0.82	2.5	8	3.08	8.5	A.12
6.2.2	413	43.81	0.89	1.92	4.9	2.36	5.5	B.20
6.2.8	213	55.59	0.83	1.62	4.3	1.72	3	C.30
6.2.6	188	57.98	0.91	1.45	2.7	1.26	1.1	D.37
6.2.7	227	55.26	0.8	1.17	1.4	1.06	0.4	E.43
6.2.1	341	48.7	0.77	0.86	-1.2	1.06	0.4	F.54
6.2.14	294	51.43	0.75	0.9	-0.9	0.83	-1.1	G.60
6.2.11	293	51.26	0.76	0.74	-2.5	0.68	-2.4	g.63
6.2.5	274	52.48	0.76	0.68	-3.3	0.7	-2.1	f.59
6.2.13	343	48.4	0.78	0.59	-3.9	0.61	-3	e.73
6.2.12	345	48.46	0.78	0.52	-4.7	0.54	-3.7	d.75
6.2.4	368	46.81	0.81	0.5	-4.7	0.51	-3.8	c.73
6.2.10	386	45.82	0.83	0.48	-4.6	0.5	-3.7	b.73
6.2.9	352	47.84	0.79	0.49	-4.9	0.5	-4.1	a.74
Mean	315.6	50	0.81	1.03	-0.7	1.1	-0.4	
Std. Deviation	66.8	4	0.05	0.6	4.1	0.75	3.7	

Table K14

Rasch Model Person Misfit for Item Cluster 6: Ideal Teacher

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
854	63	61.69	3.52	2.31	1.8	3.77	2.8	A-.32
3157	62	60.54	3.27	3.1	2.6	3.34	2.6	B.06
1719	26	42.09	2.33	1.83	2	2.94	2.6	C.19
4885	52	55.76	2.59	2.51	2.7	2.73	2.4	D.14
4310	55	55.18	2.42	1.88	1.9	2.63	2.5	E.21
647	54	54.61	2.36	2.57	3	2.48	2.4	F-.21
3614	48	52.86	2.33	1.8	1.8	2.27	2.3	G-.38
1367	33	45.38	2.06	1.42	1.4	2.16	2.4	H.20
2324	45	51.36	2.21	2	2.3	2.11	2.3	I-.05
596	46	50.75	2.08	2.07	2.7	2.04	2.4	J.38
3048	54	54.61	2.36	1.77	1.8	2.04	1.9	K.29
2677	18	35.58	3.8	2.02	1.3	1.27	0.6	L.27
2953	53	54.07	2.3	1.75	1.8	1.99	1.9	M.50
489	54	54.61	2.36	1.69	1.6	1.95	1.8	N.59
1698	46	50.75	2.08	1.64	1.8	1.89	2.1	O.55
2335	49	52.09	2.15	1.77	2	1.87	1.9	P.37
3295	33	45.38	2.06	1.44	1.5	1.83	1.9	Q.36
3987	50	52.56	2.18	1.82	2	1.71	1.6	R.55
283	50	52.56	2.18	1.25	0.8	1.77	1.7	S.51
2579	29	44.37	2.17	0.9	-0.2	1.76	1.6	T.27
335	18	35.58	3.8	1.75	1	0.79	0.1	U.43
4979	49	52.09	2.15	1.68	1.8	1.73	1.7	V.10

Table K14 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
1485	49	52.09	2.15	1.54	1.5	1.71	1.6	W.38
4643	54	56.7	2.79	0.87	-0.1	1.6	1.1	X.23
7229	50	52.56	2.18	1.49	1.3	1.58	1.4	Y.42
2506	53	54.07	2.3	1.32	0.9	1.56	1.2	Z.43
BETTER FITTING DATA OMITTED								
6108	29	43.6	2.17	0.63	-1.2	0.53	-1.1	z.69
5189	51	53.05	2.22	0.61	-1.2	0.55	-1.1	y.63
5976	41	48.66	2.02	0.58	-1.6	0.56	-1.5	x.66
2208	49	52.09	2.15	0.52	-1.6	0.55	-1.2	w.27
3016	39	48.59	2.08	0.5	-1.9	0.54	-1.5	v.53
1243	35	46.21	2.03	0.45	-2.3	0.49	-1.6	u.51
2105	46	50.75	2.08	0.44	-2.1	0.46	-1.8	t.44
5241	30	44.7	2.13	0.46	-2.2	0.43	-1.7	s.71
4802	32	44.95	2.08	0.46	-2.2	0.44	-1.7	r.67
3511	44	49.9	2.05	0.45	-2.2	0.45	-1.9	q.51
3263	49	52.09	2.15	0.45	-1.9	0.42	-1.8	p.72
397	28	43.11	2.21	0.43	-2.1	0.44	-1.3	o.60
2281	48	51.64	2.12	0.43	-2.1	0.38	-2.1	n.60
4749	41	48.66	2.02	0.35	-2.9	0.41	-2.3	m.56
4132	46	50.75	2.08	0.37	-2.5	0.37	-2.2	l.41
258	47	51.19	2.1	0.35	-2.6	0.32	-2.5	k.67
324	48	51.64	2.12	0.34	-2.6	0.29	-2.6	j.69
4675	35	46.21	2.03	0.32	-3.2	0.32	-2.6	i.63

Table K14 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5316	41	49.33	2.08	0.3	-3.1	0.32	-2.8	h.65
4217	23	40.29	2.59	0.19	-2.6	0.31	-1.3	g.56
3387	36	46.63	2.02	0.3	-3.4	0.3	-2.7	f.82
5411	43	49.48	2.03	0.29	-3.2	0.29	-2.9	e.59
4332	38	47.44	2.01	0.29	-3.5	0.28	-3	d.81
5043	29	43.6	2.17	0.27	-3.2	0.26	-2.2	c.56
5328	39	48.59	2.08	0.23	-3.8	0.26	-3.1	b.65
4049	39	47.85	2.01	0.21	-4.1	0.22	-3.5	a.91
Mean	40.8	48.34	2.56	1.06	-0.2	1.1	0	
Std. Deviation	11.5	6.77	1.98	0.57	1.7	0.69	1.5	

Table K15

Rasch Model Item Misfit for Item Cluster 6: Actual Instructional Partner

Item	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
6.3.1	395	35.91	1.23	1.63	3.3	1.52	2.2	A.72
6.3.9	308	46.4	1.06	1.47	3.1	1.47	2.6	B.69
6.3.7	290	48.44	1.06	1.14	1	1.17	1	C.71
6.3.4	206	58.86	1.18	1.15	1	1.01	0.1	D.61
6.3.3	244	53.79	1.1	0.99	0	1.03	0.2	E.69
6.3.2	297	47.8	1.06	1.02	0.2	0.99	0	d.73
6.3.8	281	49.45	1.06	0.86	-1	0.82	-1.2	c.74
6.3.6	238	54.48	1.1	0.63	-2.9	0.6	-2.7	b.73
6.3.5	235	54.87	1.11	0.49	-4.3	0.44	-4.1	a.76
Mean	277.1	50	1.11	1.04	0	1	-0.2	
Std. Deviation	52.6	6.29	0.06	0.34	2.4	0.34	2.1	

Table K16

Rasch Model Person Misfit for Item Cluster 6: Actual Instructional Partner

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2335	37	61.23	3.78	3.78	3.5	3.69	3.1	A.09
2324	32	55.22	3.25	2.18	2.3	3.58	3.7	B-.08
4885	41	68.78	5.14	2.95	2.2	1.69	1	C.50
4310	42	71.79	5.9	2.71	1.8	2.19	1.4	D.21
4771	20	44.94	3.49	2.63	2.7	2.33	2.2	E.58
3157	28	51.18	3.13	2.59	2.9	2.57	2.8	F.45
1751	25	48.21	3.17	2.52	2.8	2.5	2.6	G.30
3987	17	38.7	3.9	2.42	2.1	2.05	1.6	H.67
2443	17	38.7	3.9	2.35	2.1	1.94	1.5	I.69
1486	25	48.21	3.17	2.35	2.6	2.14	2.2	J.65
397	16	37.1	4.11	2.34	2	1.85	1.4	K.44
3048	36	59.86	3.62	2.27	2.1	2.33	2	L.23
4195	23	46.15	3.25	2.33	2.4	2.26	2.3	M.55
573	13	30.84	5.18	2.12	1.5	0.96	0.2	N.79
2421	13	30.84	5.18	2.12	1.5	0.96	0.2	O.79
2676	13	30.84	5.18	2.12	1.5	0.96	0.2	P.79
7048	13	30.84	5.18	2.12	1.5	0.96	0.2	Q.79
1212	16	37.1	4.11	2.11	1.7	1.7	1.2	R.68
418	35	58.6	3.49	1.61	1.3	2.07	1.8	S.09
2805	19	41.5	3.6	2.03	1.8	1.75	1.4	T.62
4111	38	62.74	3.99	1.64	1.2	2.01	1.5	U-.08
1698	24	47.19	3.21	1.89	1.9	1.74	1.5	V.75

Table K16 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
596	23	46.15	3.25	1.74	1.6	1.59	1.3	W.78
1485	35	58.6	3.49	1.72	1.4	1.46	1	X.66
3676	23	46.15	3.25	1.71	1.5	1.69	1.4	Y.15
3614	22	45.07	3.31	1.69	1.5	1.51	1.1	Z.66
BETTER FITTING DATA OMITTED								
750	33	56.29	3.31	0.45	-1.5	0.51	-1.1	z.50
4675	24	47.19	3.21	0.41	-1.7	0.49	-1.3	y.42
6108	32	55.22	3.25	0.47	-1.4	0.45	-1.4	x.82
4049	18	40.16	3.74	0.47	-1.1	0.45	-1.1	w.00
5043	18	40.16	3.74	0.47	-1.1	0.45	-1.1	v.00
5954	18	40.16	3.74	0.47	-1.1	0.45	-1.1	u.00
3049	15	35.31	4.37	0.46	-1	0.39	-1.1	t.90
5328	24	47.19	3.21	0.39	-1.8	0.44	-1.5	s.54
5200	40	66.4	4.63	0.36	-1.2	0.43	-0.9	r.50
5189	36	59.86	3.62	0.25	-2.1	0.43	-1.2	q.00
3263	26	49.21	3.15	0.39	-1.9	0.41	-1.7	p.57
258	19	43.8	3.58	0.36	-1.7	0.41	-1.4	o.91
4632	22	45.07	3.31	0.33	-2	0.36	-1.7	n.57
4132	33	56.29	3.31	0.25	-2.4	0.32	-1.9	m.57
2506	39	64.43	4.27	0.28	-1.6	0.31	-1.3	l.76
3387	21	43.94	3.39	0.3	-2	0.31	-1.9	k.88
324	25	48.21	3.17	0.31	-2.3	0.27	-2.3	j.70
4802	23	46.15	3.25	0.29	-2.2	0.25	-2.3	i.74

Table K16 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
5411	23	46.15	3.25	0.29	-2.2	0.28	-2.2	h.68
2848	27	50.19	3.14	0.24	-2.7	0.27	-2.4	g.77
1243	25	48.21	3.17	0.25	-2.6	0.26	-2.4	f.82
5316	28	51.18	3.13	0.23	-2.8	0.23	-2.6	e.77
2931	19	41.5	3.6	0.18	-2.5	0.22	-2.2	d.79
3016	19	41.5	3.6	0.18	-2.5	0.22	-2.2	c.79
2730	24	47.19	3.21	0.13	-3.4	0.16	-3	b.93
4979	20	42.76	3.48	0.13	-3.1	0.15	-2.7	a.79
Mean	24	44.36	5.35	1.1	-0.1	1.01	-0.1	
Std. Deviation	9.6	17.07	4.52	0.8	1.6	0.73	1.4	

Table K17

Rasch Model Item Misfit for Item Cluster 8: Professional Organizations

Item	Raw		Model S.E.	Infit		Outfit		Point Measure Correlation
				Mean	Z	Mean	Z	
	Score	Measure		Squares	Std.	Squares	Std.	
8.12.1	189	35.41	1.23	1.36	2.1	1.55	2.7	A.75
8.12.5	67	58.37	2.66	1.22	0.6	1.06	0.3	B.26
8.12.3	93	49.61	1.56	1.05	0.3	1	0.1	C.53
8.12.6	63	62.06	3.55	1.04	0.3	0.78	0.1	D.23
8.12.2	145	41.35	1.23	0.92	-0.5	0.85	-0.8	c.74
8.12.7	78	54.06	1.94	0.8	-0.6	0.43	-1.2	b.49
8.12.4	95	49.13	1.54	0.76	-1.2	0.59	-1.2	a.61
Mean	104.3	50	1.96	1.02	0.1	0.89	0	
Std. Deviation	42.8	8.63	0.79	0.2	1	0.34	1.3	

Table K18

Rasch Model Person Misfit for Item Cluster 8: Professional Organizations

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
750	13	35.42	4.38	3.1	2.4	7.17	3	A-.79
2387	15	38.96	4.06	3.97	3.4	4.93	2.9	B-.27
3294	15	38.96	4.06	2.1	1.7	3.75	2.4	C-.07
1243	9	25.4	6.05	0.45	-0.6	3	1.3	D.23
3049	9	25.4	6.05	1.86	1.1	2.69	1.3	E.02
5328	15	38.96	4.06	2.02	1.6	2.66	1.7	F.05
324	13	35.42	4.38	2.62	2	2	1.1	G.33
4028	13	35.42	4.38	2.62	2	2	1.1	H.33
1814	10	28.57	5.3	2.11	1.4	0.93	0.5	I.41
1972	11	31.15	4.89	1.98	1.4	1.27	0.7	J.35
1117	17	42.09	3.87	1.64	1.3	1.41	0.8	K.71
397	13	35.42	4.38	1.52	0.9	1.08	0.4	L.67
2739	19	45.03	3.81	1.5	1.1	1.39	0.8	M.71
7229	16	40.56	3.95	1.45	0.9	1.18	0.5	N.64
1212	11	31.15	4.89	1.37	0.7	0.69	0.2	O.69
1367	9	25.4	6.05	1.33	0.6	0.59	0.5	P.41
2014	9	25.4	6.05	1.33	0.6	0.59	0.5	Q.41
5127	9	25.4	6.05	1.33	0.6	0.59	0.5	R.41
4802	12	33.4	4.6	1.13	0.4	0.81	0.2	S.64
5106	11	31.15	4.89	1.12	0.4	0.56	0.1	T.64
5241	13	35.42	4.38	1.01	0.2	0.66	0	U.68
1485	11	31.15	4.89	0.98	0.2	0.86	0.4	V.57

Table K18 continued

Person	Raw		Model	Infit		Outfit		Point Measure
				Mean	Z	Mean	Z	
	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
854	11	31.15	4.89	0.9	0.1	0.83	0.4	W.57
5200	14	37.26	4.2	0.86	0	0.74	0	X.87
2730	17	42.09	3.87	0.81	-0.2	0.8	-0.1	Y.82
647	10	28.57	5.3	0.77	-0.1	0.33	0.1	Z.69
BETTER FITTING DATA OMITTED								
4696	19	45.03	3.81	0.52	-1	0.62	-0.6	z.71
2422	9	25.4	6.05	0.38	-0.7	0.61	0.5	y.55
5189	19	45.03	3.81	0.58	-0.8	0.48	-1	x.75
2105	13	35.42	4.38	0.58	-0.6	0.4	-0.4	w.85
2953	13	35.42	4.38	0.52	-0.7	0.42	-0.4	v.79
4132	15	38.96	4.06	0.51	-0.9	0.4	-0.7	u.87
4195	17	42.09	3.87	0.45	-1.2	0.49	-0.8	t.75
3016	13	35.42	4.38	0.48	-0.8	0.38	-0.4	s.81
1483	10	28.57	5.3	0.41	-0.8	0.36	0.1	r.68
261	9	25.4	6.05	0.37	-0.7	0.15	0.1	q.69
596	9	25.4	6.05	0.37	-0.7	0.15	0.1	p.69
1719	9	25.4	6.05	0.37	-0.7	0.15	0.1	o.69
3037	9	25.4	6.05	0.37	-0.7	0.15	0.1	n.69
4885	4	27.03	6.47	0.33	-1	0.35	-0.8	m1.00
4749	12	33.4	4.6	0.32	-1.2	0.24	-0.5	l.87
4917	12	33.4	4.6	0.32	-1.2	0.24	-0.5	k.87
5411	16	40.56	3.95	0.28	-1.8	0.24	-1.4	j.91
1730	11	31.15	4.89	0.25	-1.4	0.17	-0.4	i.85

Table K18 continued

			Model	Infit		Outfit		Point Measure
	Raw			Mean	Z	Mean	Z	
Person	Score	Measure	S.E.	Squares	Std.	Squares	Std.	Correlation
2579	11	31.15	4.89	0.25	-1.4	0.17	-0.4	h.85
1867	8	20.71	8.02	0.15	-0.7	0.06	0.4	g.69
4332	8	20.71	8.02	0.15	-0.7	0.06	0.4	f.69
4771	8	20.71	8.02	0.15	-0.7	0.06	0.4	e.69
3157	9	25.4	6.05	0.12	-1.6	0.08	0	d.85
4643	10	28.57	5.3	0.09	-2.1	0.08	-0.4	c.86
2848	17	47.33	4.63	0.06	-2.7	0.06	-2.6	b.92
489	4	44.18	13.89	0	-1.1	0	-1.1	a.00
Mean	9.6	24.74	9.13	0.92	-0.1	0.87	0.2	
Std. Deviation	3.5	10.89	4.76	0.78	1.1	1.21	0.9	

APPENDIX L

INTERMEDIATE REGRESSION MODELS

Table L1

Intermediate Regression Models for Teaching

Model	Independent variable	Unstandardized		Standardized		<i>t</i>	Sig.
		coefficients		coefficients			
		<i>B</i>	Std. error	β			
1	(Constant)	18.129	3.784			4.791	.000
	MLS	-1.661	1.157	-.122		-1.435	.154
	Ideal	.117	.048	.198		2.469	.015
	Teaching						
	BA Other	2.774	1.022	.200		2.714	.008
	Certified	4.934	1.396	.306		3.534	.001
	Program	.396	.066	.458		6.037	.000
	Administrator						
	Years as	.087	.062	.109		1.402	.164
	LMS						
2	Professional	-.055	.053	-.091		-1.038	.302
	Organizations						
	(Constant)	18.879	3.747			5.039	.000
	MLS	-1.652	1.123	-.122		-1.471	.144
	Ideal	.098	.045	.165		2.181	.031
	Teaching						

Table L1 continued

Model	Independent variable	Unstandardized coefficients		Standardized coefficients		<i>t</i>	Sig.
		<i>B</i>	Std. error	β			
3	BA Other	2.676	1.017	.194		2.633	.010
	Certified	4.927	1.332	.310		3.700	.000
	Program	.400	.064	.463		6.224	.000
	Administrator						
	(Constant)	19.512	3.743			5.213	.000
	Ideal	.094	.045	.159		2.091	.039
	Teaching						
	BA Other	2.482	1.014	.180		2.449	.016
	Certified	4.121	1.220	.259		3.377	.001
	Program	.389	.064	.450		6.060	.000
4	Administrator						
	(Constant)	22.275	3.911			5.695	.000
	Ideal	.075	.045	.127		1.662	.100
	Teaching						
	BA Other	2.251	1.003	.163		2.243	.027
	Certified	2.728	1.372	.172		1.988	.050
	Program	.303	.075	.351		4.029	.000
	Administrator						

Table L1 continued

Model	Independent variable	Unstandardized		Standardized		<i>t</i>	Sig.
		coefficients		coefficients			
		<i>B</i>	Std. error	β			
5	Instructional Partnering	.085	.040	.219		2.099	.038
	(Constant)	26.096	3.192			8.176	.000
	BA Other	2.332	1.011	.169		2.307	.023
	Certified	2.995	1.374	.188		2.179	.032
	Program Administrator	.302	.076	.349		3.978	.000
	Instructional Partnering	.098	.040	.254		2.461	.016

Table L2

Intermediate Regression Models for Instructional Partnering

Model	Independent variable	Unstandardized		Standardized		<i>t</i>	Sig.
		coefficients		coefficients			
		<i>B</i>	Std. error	β			
1	(Constant)	-48.951	14.503			-3.375	.001
	Ideal Information Specialist	.301	.181	.102		1.662	.100
	Ideal Instructional Partner	.231	.057	.258		4.023	.000
	Program Administrator	.658	.166	.293		3.953	.000
	Teaching	.573	.204	.222		2.807	.006
	Certified	11.897	2.833	.290		4.199	.000
	Elementary	-4.488	2.231	-1.25		-2.011	.047
	Lack of money for PD	-3.643	3.002	-.076		-1.214	.228

Table L2 continued

Model	Independent variable	Unstandardized coefficients		Standardized coefficients		<i>t</i>	Sig.
		<i>B</i>	Std. error	β			
2	(Constant)	-44.677	13.762			-3.247	.002
	Ideal Information Specialist	.283	.176	.096		1.607	.111
	Ideal Instructional Partner	.224	.056	.250		3.975	.000
	Program Administrator	.584	.166	.261		3.517	.001
	Teaching Certified	.639	.198	.247		3.236	.002
	Elementary	11.864	2.780	.289		4.268	.000
	Lack of PD	-4.088	2.173	-.114		-1.881	.063
		-5.429	2.345	-.142		-2.315	.023
	(Constant)	-22.066	15.427			-1.430	.156
	Ideal Information Specialist	.209	.172	.071		1.216	.227

Table L2 continued

Model	Independent variable	Unstandardized coefficients		Standardized coefficients		<i>t</i>	Sig.
		<i>B</i>	Std. error	β			
	Ideal Instructional Partner Program Administrator Teaching Certified Elementary Lack of PD Lack of money for materials	.223	.054	.249		4.091	.000
5	(Constant)	-23.638	15.269	.102		-1.548	.125
	Ideal Information Specialist	.195	.171	.066		1.142	.256

Table L2 continued

Model	Independent variable	Unstandardized coefficients		Standardized coefficients	<i>t</i>	Sig.
		<i>B</i>	Std. error	β		
	Ideal	.229	.171	.066	1.142	.256
	Instructional Partner					
	Program	.646	.155	.289	4.159	.000
	Administrator					
	Teaching	.533	.191	.206	2.794	.006
	Certified	11.429	2.669	.278	4.282	.000
	Elementary	-5.132	2.094	-.144	-2.451	.016
	Lack of money for materials	-11.942	3.290	-.213	-3.630	.000

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