

School Librarians as Co-Teachers of Literacy:
Librarian Perceptions and Knowledge in the Context of the Literacy Instruction Role

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Abstract

The Every Student Succeeds Act (ESSA) has created additional opportunities for school librarians to collaborate with classroom teachers, reading specialists, and other educators in support of schools' literacy goals. This potential for expanded collaboration suggests a need for increased focus on reading instruction as part of the school librarian's workload. For a variety of reasons, school librarians may not see this role as a priority within the scope of their many other duties. This convergent mixed-methods study sought to examine the effect of a professional development series emphasizing reading comprehension strategies on school librarians' knowledge and perceptions. Results indicated that participants experienced statistically significant knowledge gains as well as increased acceptance of an enhanced role in literacy instruction.

Keywords: school librarians, Every Student Succeeds Act, reading instruction, professional development

Introduction

Background

The Every Student Succeeds Act (ESSA) of 2015 produced several victories for school librarians, but perhaps one of its most important components was the inclusion of school librarians on the “literacy instruction team.” Section 2224 of the legislation identified the composition of this group as including classroom teachers and the school librarian. Section 2224 also mandated funding for professional development and time for the team’s collaborative planning (USGPO 2015). This legislation reflects an educational climate in which the cooperation of all school stakeholders has been recognized as necessary to counter deficits in students’ reading ability.

To understand the potential of this legislation to improve instructional collaboration, it is helpful to frame this unprecedented mandate with the theory of collaborative behavior of teachers and school librarians developed by Patricia Montiel-Overall (2005). Her Teacher and Librarian Collaboration model (TLC model) proposed four steps, beginning with the low-level Model A, in which teachers and librarians merely share time and resources. The next stage is Model B, during which limited cooperation takes place with a minimum of time commitment and/or co-planning. A far greater level of integrated instruction happens at Model C, in which teachers and librarians work jointly to produce instructional content and delivery. In the fourth and highest step, Model D, the school librarian is afforded the opportunity to plan instruction with each classroom teacher at least once over the course of the school year.

The TLC model is very helpful in considering the current state of school librarianship, as well as a future of potentially heightened collaboration under ESSA. Although many school librarians are already working at a Model C or D level within their schools, research suggests

that Models A or B are currently the predominant mode of collaboration (Latham et al. 2016; Todd 2008). ESSA's mandate for a "literacy instruction team" will, we hope, result in more instances of higher-order collaboration, as demonstrated through Models C and D.

ESSA's inclusive approach may also illuminate the important instructional contributions of school librarians, reducing the incidence of a documented problem: many librarians have perceived a lack of professional parity with their classroom teacher colleagues (Latham et al. 2016; Reed and Albakry 2017). ESSA holds the prospect of further elevating the school librarian's work through this placement on the literacy instruction team. However, this focus on school librarians' place on literacy instruction teams also suggests that a higher level of instructional rigor will be asked of school librarians. In Montiel-Overall's research with teachers and librarians, she found that teachers highly valued the attribute of expertise in their librarians as collaboration partners. Such expertise was demonstrated through knowledge of content standards, resources, literature, instructional practices, and classroom management (2008). Therefore, teachers will probably expect school librarians to have expertise in literacy instruction methods so that librarians can take a place on the literacy instruction team.

Purpose of Study

This premise (that teachers will expect school librarians to have expertise in literacy instruction) raises several questions:

- Are school librarians academically prepared to work at a higher level of literacy instruction, for example, by teaching literacy instruction strategies?
- Do librarians perceive this role in literacy instruction to be part of their jobs?

Overview of the Study

We wanted to examine these issues in our home state of Tennessee. Tennessee is experiencing a literacy deficit in that fewer than half of all third-grade and fourth-grade students are currently reading at grade level (Tennessee Dept. of Ed. 2017). Although the state has committed to new literacy initiatives in an effort to remedy this situation, we were interested in ways in which school librarians could assist in helping raise reading levels—especially because the passage of ESSA had elevated school librarians’ instructional status. We selected reading comprehension, one of four important areas of reading instruction identified by the National Reading Panel (Nat’l Institute of Child Health and Development n.d.), as an area for targeted professional development for school librarians. Although the other identified areas of reading instruction—phonemic awareness, phonics, and fluency—are vital to literacy, they are acquired primarily in the early years of formal education. In contrast, reading comprehension is a literacy skill that requires continual reinforcement throughout the elementary and secondary years. Therefore, in designing training for school librarians in practice at every grade level, reading comprehension was selected for this study as the focus of the course content.

This study sought to examine the effects on school librarians’ knowledge as well as their perceptions of the literacy instruction role resulting from a six-week online professional development (PD) course that emphasized reading comprehension strategies. The PD was conducted at a university in Tennessee that, according to the Carnegie Classification of Institutions of Higher Learning, qualifies as a research institution. The PD used an asynchronous online learning environment. Instruction emphasized a collaborative learning model and implemented project-based learning activities in addition to watching video lectures and reading

assigned texts. Through both quantitative and qualitative means, participants were assessed before and after instruction.

Literature Review

Introduction

This study was based upon an understanding of current instructional guidelines for preparation of school librarians as well as on scholarship in the area of school librarians' knowledge and perceptions of their role in literacy instruction. In designing literacy instruction for school librarians, we examined literature regarding best practices for PD of educators.

A Review of School Librarian Instructional Guidelines

Like many states, Tennessee does not mandate specific instructional standards for K–12 school librarians. Instead, school librarians follow the instructional standards of their state's classroom teachers as well as the professional guidelines and standards set by the American Association of School Librarians (AASL). The AASL professional guidelines have historically stressed a reading comprehension instructional role for school librarians. For example, AASL's "Position Statement on the School Librarian's Role in Reading" states:

[T]he school librarian has a key role in supporting print and online reading comprehension strategy instruction in collaboration with classroom teachers and reading specialists. School librarians co-design, co-implement, and co-evaluate interdisciplinary lessons and units of instruction that result in increased student learning. (AASL 2010)

This literacy instruction role was further detailed in *Empowering Learners: Guidelines for School Library Programs*:

[School librarians] model and collaboratively teach reading comprehension strategies: assess and use background knowledge, pose and answer questions that are appropriate to the task, make predictions and inferences, determine main ideas, and monitor reading comprehension, as well as the learning process (AASL 2009, 22).

These reading comprehension strategies were also addressed in the *National School Library Standards* adopted in 2017; in particular, the use of questioning strategies as well as the activation of background knowledge were two strategies cited under the “Inquire” Shared Foundation, within the “Think” Domain (AASL 2018, 47).

In addition to AASL mandates, widely adopted education standards such as the Common Core State Standards (CCSS) have also promoted a strong role for the school librarian in literacy instruction, emphasizing reading comprehension strategies (Uecker, Kelly, and Napierala 2014). Judi Moreillon produced a matrix demonstrating the direct overlap of CCSS with AASL’s 2007 *Standards for the 21st-Century Learner*. She found fourteen individual standards matching such strategies as activating background knowledge, determining main ideas, and drawing inferences (2013b). Clearly, the support of reading comprehension strategies falls within the school librarian’s job duties as defined by AASL. It is uncertain, however, the level at which school librarians are prepared to meet this challenge, from the perspectives of their knowledge of literacy instruction and their willingness to help students and colleagues at this expanded level.

School Librarians’ Knowledge of the Literacy Instruction Role

The “ALA/AASL Standards for Initial Preparation of School Librarians” clearly stipulate in standard 2.4 that graduate-level preparation programs should educate librarians about techniques that support literacy strategies: “Candidates collaborate with classroom teachers to reinforce a wide variety of reading instructional strategies to ensure P–12 students are able to

create meaning from text” (2010, 6). Despite this charge, in Tennessee preparation programs for school librarians have been largely noncompliant. We found that in Tennessee only one program recognized by AASL in an educational unit accredited by the Council for the Accreditation of Educator Preparation (CAEP) offers a course in literacy, along with one other non-accredited program. Therefore, it appears that most Tennessee school librarians will be unprepared by graduate programs in their state to reinforce reading comprehension strategies.

Some school librarians with prior classroom teaching experience may have training in these strategies because Tennessee undergraduate teaching programs require training in literacy instruction strategies. Such preparation cannot be expected of all school librarians, however. In Tennessee, classroom teaching experience is not a prerequisite to a career in school librarianship. Many school librarians enter the field without prior teaching experience and, therefore, cannot be presupposed to be proficient in literacy instruction.

Research indicates that school librarians are also unlikely to receive training through on-the-job PD opportunities, as they are often excluded from PD sessions so that the school librarian can cover classes, allowing classroom teachers to attend (Small and Stewart 2013). Tennessee’s current literacy PD initiative called “Read to be Ready” will coach classroom teachers on literacy instructional strategies. However, the Director of Reading Coaching for Tennessee’s Department of Education stated that librarians are not the focus for this instruction, and their training is at the discretion of individual school districts (Norton 2017). As a result, it is improbable that significant numbers of school librarians will receive literacy instruction training through Tennessee’s present on-the-job PD initiative.

School Librarians' Perceptions Regarding the Literacy Instruction Role

Research suggests that there is a widespread perception among librarians that literacy instruction is not a priority (Moreillon 2009, 2014; Tilley 2013). Instead, the evidence suggests that many school librarians focus on the instructional goal of information literacy (Latham, Gross, and Witte 2013; Will 2016). Additional evidence states that this instructional focus may be different based on instruction level. For example, elementary school librarians are more likely to see themselves as teachers. In contrast, secondary school librarians are more likely to emphasize their technology role (Lea 2013; McCoy 2001; McCracken 2001).

When examined for their views regarding the literacy instruction role, most school librarians reportedly target literacy instruction from the dual priorities of collection development and motivating students to read (Asselin 2003; Cart 2007; Everhart 2013). Several researchers have promoted a broader vision of the school librarian's role in literacy instruction, a trend that for some began even prior to the AASL's 2009 release of its "Position Statement on the School Library Media Specialist's Role in Reading" (which was revised in 2010 to reflect the preferred term "school librarian"). An early proponent of shared responsibility for helping learners develop effective reading strategies, Jamie McKenzie proclaimed that "Schools can no longer afford to relegate the teaching of reading comprehension to a handful of reading specialists" (2005, 15), and advocated for the integration of reading comprehension strategies into the school librarian's instruction. Mary C. Rojtas-Milliner discussed a perceived increase in the number of secondary school students with deficient reading skills, and the important role that school librarians can play in identifying and remediating this problem (2010). Beth Andersen and Megan Frazer Blakemore wrote of the active and integral role that librarians should assume on the school reading team. Andersen and Blakemore argued that to properly provide literacy support through

instruction and collection development, school librarians must understand the reading-instruction methods used by their schools' classroom teachers (2013). Carol Tilley acknowledged the hesitation that many school librarians experience in providing support for literacy instruction because they often feel this task is strictly in the realm of reading specialists or classroom teachers. As support for school librarians' integrating reading-instruction tasks into their library programs, Tilley pointed out the many similarities between information-literacy instruction (a clearly and widely defined role for school librarians) and reading-skills instruction (2013). In 2014 Moreillon contended that school librarians must work at this higher level of instruction to command greater respect from instructional colleagues.

A disconnect seems evident between researchers and practicing school librarians regarding the parameters of the literacy instruction role. While not widely held by school librarians, the views of the researchers described above are largely in line with the future of school librarianship suggested by the ESSA legislation. Accordingly, the research suggests that to meet the challenges presented by ESSA, school librarians will need both content knowledge and coaching on this expanded literacy instruction role. Therefore, professional development on literacy instruction strategies should encompass both of these aspects.

Research Regarding Best Practices in Educator PD

In designing professional development for this study, we considered many best practices for educator PD identified by the literature. The importance of a collaborative learning environment has been emphasized in the literature (Abilock, Harada, and Fontichiaro 2013), and was found to be particularly effective when similar learning groups of educators were formed—for example, teachers from the same subject area or grade level (Garet et al. 2001). Coherence, referring to instructional content that makes explicit connections to one's workday activities, has

been identified as another vital component of effective PD (Garet et al. 2001). The use of one-day teacher in-service training sessions (often referred to as “one-shots”) were found to have short-lived value to educators (Amendum 2014). Instead, researchers found that the most-effective PD format was a university graduate course (Mundy, Howe, and Kupczynski 2015). This result was attributed to the more-detailed treatment of the subject matter afforded by a course, as compared to that of a one-shot. Brian Jacob found that online delivery of instruction encourages instruction over a longer period of time, allowing participants to retain a greater amount of instructional content (2017).

Methodology

Overview

A convergent mixed-methods research methodology was used in this study. Participants were assessed through a multiple-choice instrument (see Appendix A) before and after instruction to measure any change in knowledge of reading comprehension strategies (Knowledge construct), as well as any change in participants’ perceptions of the school librarian’s role in literacy instruction (Perceptions construct). The survey results for each construct were analyzed separately using SPSS Statistics software to determine any significant mean differences (collectively and by cohort) between the scores collected at the two data points (that is, before and after instruction).

Participants were also assessed through qualitative means, before and during instruction, to understand how participants may have experienced a change in their knowledge and perceptions as a result of the professional development. Qualitative data was gathered from participants’ writings, including program application essays, online discussion board posts, and e-mails. This data was uploaded into the NVivo 11 software (QSR International) for analysis. Qualitative

analysis followed a grounded-theory methodology by which writings were analyzed for themes, and then coded and grouped under a constant comparative approach (Glaser and Strauss 1968). Writings were initially analyzed through a process of open coding, during which each statement or passage of the participant's writing was compared to a coding matrix (to view the matrix, go to Appendix B; to read more information about the derivation of the coding matrix, go to the "Qualitative Findings" section of this paper). When doing the open coding, the primary investigator (PI) made determinations about whether the descriptive themes from the matrix emerged in the participants' text. Upon completing this phase of the analysis, the PI began to look for an underlying uniformity in the results of the open coding. From this analysis emerged a list of selective codes (see table 7). The selective codes allowed the PI to clarify the logic of the emerging theory of behavior, as well as apply this theory to findings for individual participants (Holton 2010).

Research Questions

Both quantitative and qualitative data were gathered during this study to answer the following questions:

1. As a result of the instructional intervention, is there a difference between participants in the cohort of elementary school librarians ("Elementary cohort") versus the cohort of secondary school librarians ("Secondary cohort") in their knowledge of reading comprehension instructional strategies?
2. As a result of the instructional intervention, is there a difference between participants in the Elementary cohort versus the Secondary cohort in their perceptions regarding the literacy instruction role of the school librarian?

3. As a result of the instructional intervention, how will participants experience a change in their knowledge and perceptions regarding the literacy instruction role of the school librarian?

Study Participants

Participants in the study were recruited through a direct mailing as well as by means of a solicitation through the Tennessee Association of School Librarians website. Participants were required to have a minimum of one year of work experience as a K–12 school librarian and to hold a current Tennessee teaching license with library endorsement. Thirty-five school librarians currently employed in Tennessee K–12 schools qualified for and began the study, however only thirty-one participants remained for the duration of the study. Participants came from a wide geographic cross section of the state. The majority of the thirty-one study participants worked in public school districts, but two librarians taught in private schools. The participants had an average of 8.4 years of prior work experience as a school librarian (see table 1). A majority of participants (71 percent) had prior classroom teaching experience before becoming a school librarian; those participants had an average of 6.1 years of prior teaching experience.

Table 1. Participant demographic information.

	Number	Average Years of Prior Librarian Experience	Percentage with Prior Classroom Teaching Experience	Average Years of Prior Classroom Teaching Experience
Elementary cohort	15	8.7	67%	6.3
Secondary cohort	16	8.2	75%	7.9
Total class	31	8.4	71%	6.1

Survey Instrument

Based on two prior studies (Lee 2009; Mustain 2006), a two-part survey instrument was developed for this study and was administered online to participants before and after instruction.

The first part of the survey (see Appendix A) contained fifteen questions measuring participants' perceptions of their literacy instruction role. A six-point Likert scale response was indicated for each question: 1 for "SA" (strongly agree) through 6 for "SD" (strongly disagree). Because of the structure of the scale in the coding scheme, higher scores indicated a stronger negative perception, and lower scores indicated a positive perception.

The second part of the survey contained fifteen questions measuring participants' knowledge of specified strategies for teaching reading comprehension as well as the theoretical basis underlying these strategies. For each question, participants selected one of five multiple-choice answers.

Reliability

Reliability of the survey instrument was evaluated in two stages. Because of its Likert scaling, the perceptions component of the survey was evaluated using the Spearman-Brown prediction formula. Results from the combined cohort performance on the perceptions pre-instruction test ("pre-test") produced ($r_{SB} = 0.78$); the post-instruction test ("post-test") produced ($r_{SB} = 0.83$). The Knowledge component of the instrument was evaluated using the Kuder-Richardson formula for calculating the reliability coefficient. Results from the combined cohort performance on the Knowledge pre-test produced ($r_{kr20} = 0.53$); the post-test produced ($r_{kr20} = 0.77$). Overall, these results indicated an acceptable level of reliability for both the Perceptions and Knowledge components of the assessment instrument.

Reliability of the study's qualitative data was assessed through interrater reliability procedures, including triangulation. We selected two colleagues, each with extensive prior experience in qualitative research methodology, to serve as peer reviewers. These individuals examined the methodology of the study as well as the contents of each individual participant's data file. (Information about the contents of these files is in the "Qualitative Findings" section.) These peer reviewers coded the data files for open codes in accordance with the framework set up in the qualitative data coding matrix (see Appendix B), and the peer reviewers' results were compared to those of the primary investigator. The results of this preliminary triangulated comparative analysis demonstrated general close agreement in the themes as well as minimal "repackaging" (a condition in which reviewers use different terms in their exact labeling for the same concept or theme). The analysis and conclusions regarding the initial open coding indicated an acceptable level of interrater reliability for the qualitative analysis.

Procedures

The professional development was conducted over a six-week period in June and July 2017. Instruction focused on the topic of reading comprehension strategies appropriate for school librarians to teach to and reinforce with their students. All instruction and assessment were delivered through Canvas, <www.instructure.com>, an asynchronous online course management system. The PD content was delivered through learning modules (one per week). The modules included course readings, lecture notes, video lectures, discussion posts, group and individual learning exercises, and assessments.

The thirty-one participants who completed the PD were placed into one of two cohorts based on their prior work experience: an Elementary cohort (n = 15) and a Secondary cohort (n = 16). For the purpose of completing weekly group assignments, the cohorts were further

subdivided into small work groups of three or four individuals. These groups applied a reading comprehension strategy to use a Web 2.0 technology tool. In accordance with their assigned cohort, participants each received a copy of the appropriate Moreillon reading comprehension strategies book as their course textbook (Moreillon 2012, 2013a). Instruction for the two cohorts took place within separate, different webpages in Canvas. Table 2 lists the instructional content for each week, as well as the knowledge assessment questions addressed by that week’s content.

Table 2. Instructional content for the professional development.

Week #	Course Module Theme	Knowledge Assessment Questions
1	What is literacy instruction leadership? Background on early literacy development.	2, 3, 12, 14, 15
2	Strategy #1: Activating/building background knowledge	1, 4, 6, 7, 8, 10, 11
3	Strategy #2: Using sensory images	1, 4, 6, 7, 8, 10, 11
4	Strategy #3: Questioning	
5	Strategy #4: Making predictions and inferences	5, 9, 13
6	Strategy #5: Determining main ideas	

Quantitative Findings

Research Question 1: As a result of the instructional intervention, is there a difference between participants in the cohort of elementary school librarians (“Elementary cohort”) versus the cohort of secondary school librarians (“Secondary cohort”) in their knowledge of reading comprehension instructional strategies?

Dependent t-tests produced descriptive data indicating that both cohorts began the instruction at a similar point in their background knowledge of the subject matter, with the Elementary cohort ($M = 8.13$, $SD = 2.17$) at a slight advantage over the Secondary cohort ($M = 7.94$, $SD = 1.73$) (see table 3). The post-test descriptive data indicated that both cohorts completed instruction with similar gains in knowledge. However, the Secondary cohort

demonstrated slightly higher gains ($M = 12.0$, $SD = 1.63$) over the Elementary cohort ($M = 11.6$, $SD = 1.99$) (see table 3). These results indicate that both cohorts achieved a substantial improvement over their preliminary knowledge. Further analysis of the t-tests were required to understand the statistical significance of this improvement in knowledge.

Table 3. Descriptive statistics of knowledge scores.

	Pre-Test			Post-Test	
	<i>Number</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Mean</i>	<i>Standard Deviation</i>
Elementary cohort	15	8.13	2.17	11.6	1.99
Secondary cohort	16	7.94	1.73	12.0	1.63

The dependent t-tests confirmed that both groups experienced a positive change in knowledge as measured based on the testing before and after instruction. The Elementary cohort had a statistically significant change in knowledge scores ($M = 3.47$, $SD = 2.07$) as measured before and after instruction: $t(14) = 6.5$, $p < .000$. Each test had a total of fifteen possible points. These results indicate that the Elementary cohort post-test scores were on average 3.47 points higher than the pre-test scores. The Secondary cohort also had a statistically significant change ($MD = 4.06$, $SD = 2.35$) as measured from before and after instruction: $t(15) = 6.91$, $p < .000$. This means that the Secondary cohort post-instruction assessment scores were on average 4.06 points higher than the pre-instruction assessment (see Table 4).

Table 4. Results of dependent t-test on knowledge outcome.

	<i>Mean difference</i>	<i>Standard Deviation</i>	<i>t</i>	<i>df</i>	<i>p</i>
Elementary cohort	3.47	2.07	6.50	14	0.000
Secondary cohort	4.06	2.35	6.91	15	0.000

Note: The mean differences were calculated by subtracting pre-test means from post-test means. Positive values indicate scores were greater than pretest.

A repeated-measures ANOVA (analysis of variation) was next performed to understand if the Secondary cohort’s slightly larger knowledge gain was a statistically significant difference when compared to the Elementary cohort’s gain. The variable of Time was used to describe the change in participant knowledge from pre- to post- instruction. As shown in table 5, a significant main effect of Time on participant knowledge gains was identified when combining the results of both cohorts ($F(1, 29) = 89.21, p = .000, \eta_p^2 = .76$), indicating that participants had a significant increase in knowledge as measured by the pre-test and post-test. The effect size of .76 indicates that the professional development had a large effect on knowledge gains across the entire group of participants. The interaction of Cohort with Time, however, was not statistically significant ($p = .461$). This indicates that there was no differential effect of the treatment (that is, the PD did not work differently in the Elementary vs. Secondary cohorts). Therefore, although there were statistically significant gains in knowledge among all participants, there was no statistically significant difference in knowledge gains between cohorts.

Table 5. Repeated-measures ANOVA for Knowledge.

Source	N	df	F	p	Partial Eta Squared (effect size)
Time	31	1	89.21	.000	.76
Time x Cohort	31	1	.559	.461	.02

Research Question 2: As a result of the instructional intervention, is there a difference between participants in the Elementary cohort versus the Secondary cohort in their perceptions regarding the literacy instruction role of the school librarian?

Because of the scaling of the instrument, a higher score indicated a more-negative perception of the literacy instruction role. Dependent t-tests produced descriptive data indicating that the Elementary cohort ($M = 37.80$, $SD = 8.71$) began the instruction with a slightly more-positive view of the literacy instruction role than the Secondary cohort ($M = 38.75$, $SD = 6.71$) (see table 5). The post-test descriptive data indicated that while both cohorts completed instruction with an improved positive outlook regarding perceptions, the Elementary cohort ($M = 34.73$, $SD = 8.66$) on average remained slightly more positive in their perceptions than the Secondary cohort ($M = 35.38$, $SD = 6.77$) (see table 6).

Table 6. Descriptive statistics of perceptions scores.

	Pre-Test			Post-Test	
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Elementary cohort	15	37.80	8.71	34.73	8.66
Secondary cohort	16	38.75	6.71	35.38	6.77

The dependent t-test found that the Elementary cohort had a statistically significant change in perception scores ($M = 3.07$, $SD = 4.65$) as measured from pre- to post-test: $t(14) = 2.55$, $p = 0.023$. Elementary cohort post-test scores were on average 3.07 points lower than the cohort's pre-test scores, indicating a positive improvement in the group's perceptions (see table 7).The

Secondary cohort also had a statistically significant change in perception scores ($M = 3.38$, $SD = 6.03$) as measured from pre-to post-test: $t(15) = 2.24$, $p = 0.041$. Secondary cohort post-test scores were on average 3.38 points lower than on the cohort’s pre-test, indicating a more-positive perception of the literacy instruction role after the PD. These results indicate that the Secondary cohort made a slightly more-pronounced positive shift in perceptions than did the Elementary cohort (see table 7).

Table 7. Results of dependent t-test on perceptions outcome.

	<i>Mean difference</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>
Elementary cohort	3.07	4.65	2.55	14	0.023
Secondary cohort	3.38	6.03	2.24	15	0.041

An ANOVA was used to compare the effect of the professional development on participant perceptions before and after instruction. There was a significant main effect of Time on participants’ perception gains when the results of both cohorts were combined ($F(1, 29) = 10.98$, $p = .002$, $\eta_p^2 = .28$ (see table 8), indicating that participants had a significant positive change in perceptions from before and after instruction. The effect size of .28 indicates that the PD had a large effect on perception gains across the entire group of participants, such that the average participant held a more-positive view of the literacy instruction role after completing the online instruction about teaching reading strategies. Adding the interaction of Cohort x Time, however, revealed no statistically significant difference ($p = .875$). Therefore, although statistically significant positive gains in perception among all participants resulted from the PD, no statistically significant difference in perception between the cohorts was revealed after the PD.

Table 8. Repeated-measures ANOVA for perceptions.

Source	N	df	F	p	Partial Eta Squared
Time	31	1	10.98	.002	.28
Time x Cohort	31	1	.025	.875	.00

Qualitative Findings

Research Question 3: As a result of the instructional intervention, how will participants experience a change in their knowledge and perceptions regarding the literacy instruction role of the school librarian?

To begin this analysis, the primary investigator (PI) created an individual data file in NVivo analysis software for each of the thirty-one participants. Each participant’s data was organized chronologically by week of instruction, and included all written communication relevant to that participant’s understanding of the course material. These writings included discussion board posts, e-mails to the PI, and initial application essays written by participants prior to the beginning of the PD. Coding of themes was undertaken by the PI and proceeded chronologically so that individual changes in knowledge and/or perceptions over time could be identified. The individual changes were subsequently grouped together by cohort to understand any differences at the cohort level.

Data analysis began with an initial period of open coding along four specified themes derived from the quantitative assessment instrument. Later, three axial codes were added after the first round of analysis. The seven themes, along with their individual criteria, are described in Appendix B. The themes and their codes (in parentheses) are listed below.

Open Coding:

Literacy Instruction Role (LIR)
Literacy Attitudes (LA)
Traditional Instruction Role (TIR)
Confidence (CON)

Axial Codes

Collaboration (COL)
Prior Work Experience (PWE)
Prior Education (PE)

In general, we were looking for any change (over the course of the six-week class) in participants' perceptions from a Traditional Instruction Role (TIR), characterized by an instructional emphasis on information literacy and motivating student reading, to a Literacy Instruction Role (LIR), characterized by a willingness to teach and support reading comprehension strategies. For example, many participants indicated in their initial application essays that they felt the literacy instruction role of the school librarian extended to the procurement of high-interest reading material and the teaching of research skills. While these are very important school librarian tasks, they were coded as TIR. In contrast, a school librarian who wrote about her steps to activate background knowledge prior to introducing a new book series would be coded as LIR.

As a result of this early coding and analysis, we were able to consolidate the emerging themes into a new group of selective codes (see table 9). The selective codes reflected patterns in behavior noted by the PI through the open coding. These selective codes were not mutually exclusive. For example, some participants held very traditional views about the literacy role (Code E) yet also demonstrated enthusiasm about the class material (Code A). We were most

interested in identifying those participants who changed over the six-week course, finishing the course with expressed acceptance of the literacy strategies (LA), as well as confidence in using these strategies (CON); these were the participants noted with a code D.

Table 9. Emergent themes from open and axial coding (selective coding).

Code	Characteristics of Selective Code	Related Codes
A	Demonstrated enthusiasm about the new ideas from class.	High LA, COL
B	Some limited experience with the literacy instruction role; aspires to be more intentional in the future.	Moderate LIR
C	A newcomer to the literacy instruction role.	Low LIR
D	Big attitude shift regarding the literacy instruction role.	High LA, CON
E	Very traditional librarian role initially.	High TIR

Qualitative analysis of the Knowledge construct was designed to capture participants' views regarding structural elements of the course delivery that may have been conducive to learning. In analyzing participants' writings, a theme emerged suggesting that the collaborative nature of the class had contributed to student learning. For example, during the third week of class one student wrote in a discussion board post:

I must say, I found this chapter more challenging than the previous one. While I can definitely see the value in it, teaching students about sensory images will definitely take me out of my comfort zone!...My major struggles with this week are: 1. I have zero experience or comfort with using a think-aloud to talk about my feelings before, during, and after reading....Any suggestions???

The student received an overwhelming response, as over half of her cohort wrote back with concrete ideas on how to implement the strategy in question. This strong positive response seemed to embolden the student to continue adding to class discussions in the coming weeks. By the end of the course she appeared to have developed far more confidence in the subject matter.

Writing during the last week of class, she said “I want to thank each of you in this group...it has been immensely gratifying to join together with you all as a group and learn from your years of expertise.”

This was one of many examples in which the use of cohorts fostered camaraderie as well as provided an instructional setting in which students felt open to learning from one another. A theme emerged through the coding scheme, suggesting that as knowledge increased, an increase in participant confidence (CON) and collaboration (COL) followed. Positive gains in these two variables appeared to have promoted improved Literacy Instruction Role (LIR) in individual students.

Qualitative analysis of the Perception construct was approached from the hypothesis that individuals demonstrating enthusiasm for the course material would learn more and also display a more-positive view of the literacy instruction role. The analysis of the qualitative data revealed that participants’ improvement in their perceptions regarding the literacy instruction role derived from a two-step process; a participant needed to develop both the knowledge of literacy strategies *and* the conviction that employing these strategies is a worthwhile expenditure of the librarian’s instructional time.

In analyzing the results of the selective coding, a pattern emerged in which participants demonstrated enthusiasm for the course material when it had clear connections to their work as school librarians. For example, one Secondary cohort participant wrote in week 6:

As a high school librarian, I have assumed, maybe erroneously, that my students already know how to read. I can’t think how they would have passed 8th grade if they

couldn't...I think it would be useful for us secondary librarians to be able to recognize a student who has missed some of the earlier phonetic literacy steps and needs help.

Michael S. Garet et al. (2001) referred to PD content that reflects the real-life work activities of teachers as “coherence,” and coherence between the subject matter and participants’ jobs seems to have led to greater enthusiasm for the strategies presented in the course.

The net result of these qualitative gains in knowledge and perceptions was measured by the selective coding results, in which we found that eleven of the thirty-one total participants exhibited an attitude shift regarding the move from a more-traditional school librarian’s view of literacy instruction to the enhanced view promoted by the PD. This shift was designated by code D (see table 9). Remarkably, a vast majority (seven out of the eleven) of those making the big shift in perceptions were Secondary cohort participants. These findings reinforce the quantitative findings, which found that the Secondary cohort produced a slightly more-pronounced positive shift in perceptions of the literacy instruction role by the end of instruction than did the Elementary cohort.

Conclusions

This study was informed by current literature, which supports the directive that school librarians should be incorporating reading comprehension strategies into their lessons. Despite professional and national mandates for literacy instruction to be part of the school librarian’s instructional role, the majority of school librarian preparation programs in Tennessee are currently concentrating only on the teaching of other core proficiencies for school librarians rather than also teaching pre-service school librarians to teach and reinforce effective strategies for reading comprehension. Many school librarians believe that support of literacy instruction

has a low priority in the context of their many other duties. These combined factors have impeded the ability of school librarians to reach their full potential as members of the literacy instruction team.

The findings of this study indicate that a structured professional development on reading comprehension instructional strategies can have a positive effect on school librarians' knowledge. This training can also positively impact librarians' confidence as well as perceptions of the literacy instruction role.

As federal mandates and states' adoption of rigorous standards require more of school librarians, faculty responsible for university preparation programs may want to re-examine the value of explicit reading comprehension instruction through degree program coursework. University programs may also want to offer outreach to in-service school librarians in the form of online professional development as a means of increasing knowledge and awareness of the enhanced literacy instruction role.

This study was intended to help educators of school librarians who are interested in implementing literacy training for school librarians. The results of the study could also help spur partnerships between universities and local K–12 school systems in providing targeted PD for school librarians.

Study Limitations

Despite the benefits derived from the PD provided as part of this study, the study did have limitations that affect generalizing the effects to a larger population. The small sample size, as well as absence of a traditional control group, are limitations of the study. A further limitation

is the lack of randomization of participants because of the cohort assignment inherent to the study's methodology.

Recommendations for Future Research

Several findings from the research present opportunities for future study. One area of interest relates to long-term retention of the instructional content. It would be helpful to follow up with participants to determine their retention of the subject matter, as well as their implementation of the strategies into their teaching. Another area of interest is possible barriers to implementation of the literacy strategies, a theme that emerged during the qualitative analysis of participants' writings. Studying administrators' and classroom teachers' perceptions of the school librarian's literacy instruction role would be useful to determine any limits to collaboration these stakeholders create. If barriers exist, additional PD could be developed to address strategies for surmounting these obstacles to collaboration.

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Appendix A: Survey Instrument

School Librarian Perceptions and Knowledge Survey

School Librarian Perceptions of the Literacy Instruction Role

The following 15 statements relate to your opinions of the literacy instruction role of K-12 school librarians. Select the response that best corresponds to what degree you agree with each statement.

RESPONSE KEY	
SA = Strongly Agree	MD = Mildly Disagree
A = Agree	D = Disagree
MA = Mildly Agree	SD = Strongly Disagree

1. I define the term "literacy" as a person's knowledge of a particular subject or skill; for example "information literacy".	SA A MA MD D SD
2. Every educator is a reading instructor.	SA A MA MD D SD
3. I regularly collaborate with classroom teachers on joint lessons to support information literacy standards, for example research skills.	SA A MA MD D SD
4. Increasing reading proficiency levels in students should be the main instructional focus in elementary schools.	SA A MA MD D SD
5. I have the ability and training necessary to motivate my students to read.	SA A MA MD D SD
6. Reading proficiency levels in children are the single most important factor in how well they do in school.	SA A MA MD D SD

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<p>7. I consider the teaching of information literacy (the ability to locate, evaluate, and use information resources) to be a major responsibility of my job.</p>	<p>SA A MA MD D SD</p>
<p>8. I regularly collaborate with classroom teachers on joint lessons which include reading comprehension strategies.</p>	<p>SA A MA MD D SD</p>
<p>9. My training and coursework during my librarian preparation gave me the skills to effectively teach reading strategies.</p>	<p>SA A MA MD D SD</p>
<p>10. I define the term "literacy" as the ability to read with at least a minimum level of proficiency.</p>	<p>SA A MA MD D SD</p>
<p>11. Increasing reading proficiency levels in students should be the main instructional focus in secondary (middle and high) schools.</p>	<p>SA A MA MD D SD</p>
<p>12. I consider the teaching and support of reading strategies to be a major responsibility of my job.</p>	<p>SA A MA MD D SD</p>
<p>13. My administrator values my role in supporting student reading achievement objectives.</p>	<p>SA A MA MD D SD</p>
<p>14. I am treated as an equal by classroom teachers when it comes to the planning and design of lessons which support school reading achievement goals.</p>	<p>SA A MA MD D SD</p>

School Librarian Perceptions and Knowledge Survey

15. I incorporate reading comprehension skills within my lessons.	SA A MA MD D SD
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School Librarian Perceptions and Knowledge Survey

School Librarian Knowledge of the Literacy Instruction Role

Please complete the following 15 questions, which demonstrate an overview of the concepts that will be covered in this course.

<p>1. Which of the following would most be considered a “During” comprehension strategy?</p> <ul style="list-style-type: none">a. Summarizeb. Activate background knowledgec. Reflectiond. Clarifying purpose for readinge. Determining main idea
<p>2. Under which federal educational policy are school librarians mandated a level of literacy instruction collaboration with classroom teachers (including funding for professional development opportunities)?</p> <ul style="list-style-type: none">a. No Child Left Behind (NCLB)b. Every Student Succeeds Act (ESSA)c. Elementary and Special Education Act (ESEA)d. Individuals with Disabilities Education Act (IDEA)e. Response to Intervention (RTI)
<p>3. Which one of the following was NOT endorsed by the National Reading Panel as a successful evidence-based reading instruction practice?</p> <ul style="list-style-type: none">a. Phonemic awarenessb. Reading comprehensionc. Silent sustained reading (SSR)d. Fluencye. Guided oral reading

School Librarian Perceptions and Knowledge Survey

4. Which one of the following refers to a strategy in which learners make connections between their background knowledge and any meaningful written communication?

- a. Text-to-self
- b. Text-to-world
- c. Text-to-memory
- d. Text-to-text
- e. Text-to-foundation

5. The Construction-Integration model states that inferencing (beyond the explicit information present in the text) happens at which level:

- a. Surface structure level
- b. Foundation level
- c. Situation model level
- d. Textbase level
- e. Automatic model level

6. One advantage of the _____ model of reading comprehension is that it provides an explanation for individual differences in comprehension skill.

- a. Structure-Building model
- b. Event-Indexing model
- c. Construction-Integration model
- d. Psycholinguistic model
- e. Social Development model

7. Which theory of reading comprehension best supports the processes behind understanding narrative text?

- a. Structure-Building model
- b. Event-Indexing model
- c. Construction-Integration model
- d. Psycholinguistic model
- e. Social Development model

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<p>8. The Structure-Building model states that when comprehenders cannot map to a structure, then a substructure is built, which in turn requires laying another foundation. This process is called _____.</p> <ul style="list-style-type: none">a. shiftingb. differentiationc. primingd. directinge. structuring
<p>9. Which of the following is NOT a metacognition strategy?</p> <ul style="list-style-type: none">a. Activating background knowledgeb. Using graphic organizersc. Using context cluesd. Making predictionse. Defining unknown vocabulary words
<p>10. Which of the following reading comprehension strategies best aligns with <i>Standards for the 21st-Century Learner</i>, standard 4.1.2: "Read widely and fluently to make connections with self, the world, and previous reading."</p> <ul style="list-style-type: none">a. Using sensory imagesb. Questioningc. Making predictionsd. Determining main idease. Activating or building background knowledge
<p>11. The Structure-Building model proposes that readers _____ information that is related to prior knowledge and _____ information that appears irrelevant.</p> <ul style="list-style-type: none">a. Gather; inhibitb. Support; synthesizec. Store; addd. Enhance; suppresse. Modify; reduce

School Librarian Perceptions and Knowledge Survey

<p>12. _____ is the process of simultaneously extracting and constructing meaning through interaction and involvement with written language.</p> <ul style="list-style-type: none">a. Literacyb. Metacognitionc. Language developmentd. Reading comprehensione. Communication
<p>13. Which of the following is NOT a type of inferencing classified under the Construction Integration model?</p> <ul style="list-style-type: none">a. Generatedb. Retrievedc. Automaticd. Controllede. Enhanced
<p>14. One coteaching approach in which each educator works with half the class to teach the same or similar content is _____.</p> <ul style="list-style-type: none">a. Parallel teachingb. One teaching, one supportingc. Station or center teachingd. Alternative teachinge. Team teaching
<p>15. Effective reading comprehension strategy instruction should be explicit. Which of the following steps is NOT an example of explicit instruction?</p> <ul style="list-style-type: none">a. Explanationb. Modelingc. Guided practiced. Memorizatione. Application

Appendix B: Qualitative Data Coding Matrix

Qualitative Data Coding Matrix for Librarian Perceptions

Research question: As a result of the instructional intervention, how will participants experience a change in their knowledge and perceptions regarding the literacy instruction role of the school librarian?

1) Divided questions from the Perceptions section of the survey instrument into 4 coding categories:

- LITERACY INSTRUCTION ROLE (LIR) = the school librarian's view regarding their responsibility to teach literacy skills.
 1. I define the term "literacy" as the ability to read with at least a minimum level of proficiency.
 2. I consider the teaching and support of reading strategies to be a major responsibility of my job.
 3. I regularly collaborate with classroom teachers on joint lessons which include reading comprehension strategies.
 4. I incorporate reading comprehension skills within my lessons.

- LITERACY ATTITUDES (LA) = the school librarian's buy-in regarding the importance of literacy instruction.
 1. Increasing reading proficiency levels in students should be the main instructional focus in elementary schools.
 2. Every educator is a reading instructor.
 3. Reading proficiency levels in children are the single most important factor in how well they do in school.
 4. Increasing reading proficiency levels in students should be the main instructional focus in secondary (middle and high) schools.

- TRADITIONAL INSTRUCTION ROLE (TIR) = speaks to the traditional librarian role of information-literacy instruction (i.e., research skills)
 1. I regularly collaborate with classroom teachers on joint lessons to support information-literacy standards, for example research skills.

2. I consider the teaching of information literacy (the ability to locate, evaluate, and use information resources) to be a major responsibility of my job.
3. I define the term “literacy” as a person’s knowledge of a particular subject or skill; for example “information literacy”.

- CONFIDENCE (CON)

= the school librarian’s confidence in the workplace: how they view their skills, the importance of their role to the overall school goals, and how they think colleagues view their role.

1. My training and coursework during my librarian preparation gave me the skills to effectively teach reading strategies.
2. I have the ability and training necessary to motivate my students to read.
3. My administrator values my role in supporting student reading achievement objectives.
4. I am treated as an equal by classroom teachers when it comes to the planning and design of lessons which support school reading achievement goals.

2) Created 3 additional codes:

- Collaboration (COL) = school librarians’ ability to collaborate with their colleagues.
- Prior work experience (PWE) = prior work experiences which have some bearing on literacy instruction.
- Prior education (PE) = prior education of school librarians regarding literacy instruction.