THE DIFFERENCE AMONG SCHOOL LIBRARIANS' SELF-EFFICACY LEVELS AND THE RELATIONSHIP BETWEEN SELF-EFFICACY OF SCHOOL LIBRARIANS AND READING SCORES

by

Jessica Lynn Thompson

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

This study examined the difference in school librarians' self-efficacy between elementary, middle, and high school librarians. It also attempted to determine if self-efficacy levels in elementary school librarians can predict the overall average pass rates on the Virginia Standards of Learning Reading assessment for their schools. The study was conducted quantitatively using the Teacher Sense of Efficacy Scale that was sent out electronically to members of the Virginia Association of School Librarians contact list, using a convenience sample of 234 school librarians across the state of Virginia as well as the results of the Virginia Standards of Learning reading scores. An ANOVA was used for the causal-comparative design to examine the difference in self-efficacy levels, and a correlational design using a bivariate linear regression to aid in determining if self-efficacy was used to predict reading scores. The data analysis resulted in a failure to reject Null Hypothesis One and a rejection of Null Hypothesis Two. The results of this study support the need for lessons on self-efficacy in preservice school librarian programs and at school librarian conferences, and the results may be used to remind schools and school librarians of the impact they can have on student achievement. Recommendations for future research include expanding the participant pool, creating an instrument more in line with school librarians' tasks, utilizing a qualitative design, factoring other demographics such as years of service, and examining middle and high school reading scores.

Keywords: self-efficacy, school librarian, student achievement, Standards of Learning Reading assessment, Teacher Sense of Efficacy Scale

Dedication

I would like to dedicate this my husband Wendell, who has stood by me and encouraged me throughout my entire educational journey. Thank you for all your love and support! I love you with all my heart! I would also like to dedicate this to our son, Skyler, and our daughter, Morgan. They have both been cheerleaders for me, rooting me on and listening to me whenever I was frustrated. I love you guys!

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List of Abbreviations

American Association of School Librarians (AASL)

Analysis of variance (ANOVA)

Criterion variable (CV)

Dependent variable (DV)

Emotional Intelligence (EI)

Independent variable (IV)

Institutional Review Board (IRB)

Lesson study (LS)

Missouri Assessment Program (MAP)

Ohio State Teacher Efficacy Scale (OSTES)

Predictor variable (PV)

Professional development (PD)

Standards of Learning (SOL)

Teacher Sense of Efficacy Scale (TSES)

Virginia Association of School Librarians (VAASL)

Virginia Department of Education (VDOE)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of the following chapter is to discuss the quantitative research study that examined teacher self-efficacy of school librarians and the difference based on the school level in which they teach as well as if elementary school librarians' self-efficacy can predict overall pass rates on reading scores. This research is important to preservice school library programs, current school librarians, and school districts. The problem statement and purpose statement will be presented. The significance of the study as well as the research questions will be discussed.

Background

School libraries are no longer catacombs of books, and school librarians are no longer the cardigan-wearing, glasses-on-a-chain sporting ladies with soft soled shoes and a pointer finger plastered to shushing lips. Libraries are changing with the times (Dickinson, 2015). With those changes comes the positive impact that school libraries have on student achievement (Johnston & Green, 2018). Lance and Kachel (2018) mentioned the number of studies that show the positive impact that high-quality school library programs have on student academic achievement. For those school librarians with high self-efficacy, the impact can be even greater (Weber, 2017).

School libraries were started early in the 20th century and were added as major parts of the school over the next 50 years (Wine, 2016). As far back as the 1920s, school librarians played a role in the education of students (Howard, 2017); however, these were mainly in high schools and rarely found in elementary schools (Woolls et al., 2014). School librarians became more involved in developing curriculum in the 1950s, and then in the 1960s they created standards for collection development (Wine, 2016). In 1965, additional funding helped increase and improve school libraries across the nation (Wine, 2016), and addition funding in the 1980s

brought libraries into focus and spurred the changes that would be seen for the next several years (Woolls et al., 2014).

Many of these changes in school libraries began in the 1990s when technology became readily available and the Internet became a common way to access information (Fourie & Loe, 2016). School librarians now go by many different titles such as School Librarian, Teacher Librarian, Library Media Specialist, and Library and Instructional Technology Teacher, among other names (Woolls et al., 2014). For the purpose of this study, the term school librarian will be used. In a 2010 press release, the American Association of School Librarians (AASL) announced that the vote was officially in favor of adopting the title of school librarians to be the commonly recognized name, as it truly encompasses all of their responsibilities such as being an instructional partner, an information specialist, a program administrator, and a school leader (Dickinson, 2015).

With these changes in school librarians' responsibilities, regardless of the name, students and teachers in schools with a school librarian are impacted in some way through the library program (Scholastic Library Publishing, 2016). School librarians plan events. collaborate with teachers, support technology and information literacy, teach lessons, build collections, market the library materials and services, and so much more (Woolls et al., 2014). In order do to all these things well, and make an impact on academics, school librarians should possess high teacher self-efficacy (Weber, 2017). Leonard and Green (2018) defined teacher self-efficacy as the extent to which teachers believe they can affect student achievement. Studies have shown that schools with certified school librarians on staff have higher scores on standardized assessments (Coker, 2015). There have also been studies that show teachers with high self-efficacy have a greater impact on student achievement (Schiefele & Schaffner, 2015). For school

librarians to plan and execute the robust programs they do and have an impact on students' academic achievement, it seems likely that high self-efficacy would be a factor.

School librarians are there to serve the entire school community (Johnston & Green, 2018). They work with the administration, teachers, parents, students, and the community (Woolls et al., 2014). School librarians' roles often differ across schools, and librarians find themselves doing something different from day to day. Every task they perform, committee they sit on, program they plan, and book they order is done to create an impact on student achievement (Dickinson, 2015, Johnston & Green, 2018). Some elementary school librarians have fixed schedules, teaching every student in the school each week, focusing on information literacy, and supporting core curriculum. Middle and high school librarians often have flexible schedules and collaborate with teachers in the school to support their students in research projects, reading goals, and testing.

The foundation to a research study is the theoretical framework. Self-efficacy theory stems from Bandura's social cognitive theory (Bandura, 2012; Sehgal et al., 2017). Bandura (2012) discussed self-efficacy as being based on social cognitive theory, which comes from an agentic perspective. In an agentic perspective, one exerts influence over personal functioning. Teacher self-efficacy is defined as teachers having the belief that they can impact student achievement (Tschannen-Moran et al., 1998). Teacher self-efficacy became a topic of conversation in 1976 when researchers began asking teachers if they felt they made a difference to students' motivation and performance regardless of their home environment (Tschannen-Moran et al., 1998) and is still a topic of interest.

Although this concept is related to teacher self-efficacy, it works well for school librarians, as they are also teachers. In Virginia, school librarians are required to have teaching

certification and a school library endorsement (Library Media Prek-12, 2018). Teachers having high self-efficacy can impact student achievement; therefore, the same would apply to school librarians.

Problem Statement

Self-efficacy may vary depending on if one works with elementary, middle, or high school students (Ryan et al., 2015). Ryan et al. stated that elementary school teachers tend to have higher self-efficacy than middle school teachers, which may be due to the attention the middle school students give to peer relationships and their developmental characteristics. This difference may also be due to the number of students and amount of time spent with them throughout the day, as middle and high school teachers spend less time with more students each day than elementary teachers (Ryan et al., 2015). There is a gap in the literature on the difference in school level and self-efficacy in school librarians. This study will attempt to partially address this gap.

School library programs have changed dramatically over the years and are no longer solely places for students to visit and listen to a story or do a research project. They have become robust programs that follow the AASL standards as well as the Standards of Learning (SOL) in Virginia. The AASL standards support critical thinking, collaboration, information literacy, contributing to a global society, and developing reading skills (AASL, 2017). Librarians also support core curriculum such as reading, math, history, and science, all based on the SOLs. School librarians spend a lot of time planning lessons, teaching many different skills, managing the library program via reading incentives, building the library collection, and collaborating with other school staff. There have been studies that show a correlation between schools with fully-certified school librarians and higher reading scores (Coker, 2015; Scholastic Library Publishing,

2016). In Virginia, school librarians are certified teachers with a library endorsement (Library Media Prek-12, 2018). It is known that teachers with high self-efficacy have greater impact on student achievement (Schiefele & Schaffner, 2015). The problem is that there is a gap in the literature that correlates the relationship between school librarians' teacher self-efficacy and schools' overall average reading scores, which were examined in this study.

Purpose Statement

The purposes of this study were to quantitatively a) test the difference in self-efficacy among elementary, middle, and high school librarians and b) to determine if school librarians' self-efficacy levels can predict reading scores on the Virginia SOLs Reading assessments. The study requires two different designs. For RQ1, to determine if there is difference in self-efficacy among elementary, middle, and high school librarians, the study used a causal-comparative design. The dependent variable, teacher self-efficacy, was generally defined as the belief that one can make a difference in students' educational achievement (Leonard & Green, 2018; Tschannen-Moran & Hoy, 2001a). The independent variable was generally defined as the school level in which the librarian teaches: elementary, middle, or high school.

The second design for RQ2 was correlational. Teacher self-efficacy, measured by the TSES and defined above, was the predictor variable and the criterion variable was generally defined as the reading scores on the Virginia SOL Reading standardized assessments for third, fourth, and fifth grades. School librarians that are on the Virginia Association of School Librarians (VAASL) email listserv who chose to respond were the participants in this study with 234 respondents.

Significance of the Study

This study was significant as it addressed gaps in the literature on school librarians' self-efficacy based on school level and determined the relationship of self-efficacy levels of school librarians and elementary schools' overall average reading scores. The results may be used to inform school library preparatory to add modules on the importance of the school library program or how individual school librarians can positively affect student achievement. It may also be used to design and promote sessions at school library conferences. The study can be used to serve as a reminder to school librarians and inform school districts of the impact that school librarians can have on instruction.

Universities that have school librarian programs may consider teacher self-efficacy as something to add to the curriculum on the results of this study. Varghese et al. (2016) noted that "successful teaching experiences, relevant observations of other teachers' instructional practices, and performance feedback or pep talks are factors that can positively shape teachers' efficacy" (p. 229). Teachers with high self-efficacy are more likely to try new strategies to reach struggling students (Varghese et al., 2016) which would be beneficial for school librarians, as they teach all students in the school.

Teacher quality has long been linked with self-efficacy (Yoo, 2016); therefore, schools should want school librarians to have high self-efficacy. Yoo conducted a study utilizing the Teacher Sense of Efficacy Scale (TSES) and a five-week professional development online learning program to determine if a change in self-efficacy would be noted following the treatment. This study concluded that there was a positive effect on self-efficacy following the learning modules, which Yoo noted was consistent with Bandura's thoughts on additional training and the improvement of self-efficacy. The findings of this study could be used to shape

professional development that could be impactful for current school librarians. Training could also be presented at school librarian conferences to remind attendees of the importance of high self-efficacy levels. This training could be presented at regional, state, and national conferences.

Scholastic Library Publishing (2016) distributed a compendium of research that supported the effect school libraries have on schools. Major themes that came from the compiled research included having credentialed school librarians on staff, collaboration and co-teaching with school librarians, access to technology through the school library, the size of the collection in school libraries, and how all of these improve student learning (Scholastic Library Publishing, 2016). This self-efficacy study added to this body of knowledge.

Research Questions

RQ1: Is there a difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high schools?

RQ2: Can teacher self-efficacy levels of elementary school librarians predict school overall average pass rates on the Virginia Standards of Learning Reading assessment?

Definitions

The following are terms that are defined as they will be used in this dissertation. Terms and their abbreviations are also be listed.

1. *School Librarian* - The school librarian serves in the roles of "21st-century school…leader, instructional partner, information specialist, teacher, and program administrator" (AASL, 2010, para. 3)
2. *Standardized Assessments* - For this study, standardized assessments refer to the Virginia SOL tests, which measure students' success in the various subjects (VDOE, n.d.-b.).

3. *Standards of Learning (SOL)* - The SOLs are the defined by the state of Virginia as the "minimum expectations for what students should know and be able to do at the end of each grade or course in English, mathematics, science, history/social science and other subjects" (VDOE, n.d.-b., para 1).
4. *Teacher self-efficacy* - Teacher self-efficacy is the belief that one can make a difference in students' academic achievement (Leonard & Green, 2018; Tschannen-Moran & Hoy, 2001a).

CHAPTER TWO: LITERATURE REVIEW

Overview

This chapter will provide an overview of literature that pertains to the area of self-efficacy, school librarians, and their impact on student achievement. The first section will discuss the learning theories selected as a framework and how those theories relate to the topic of school librarians' self-efficacy and student achievement. The second section will synthesize recent literature that relates to self-efficacy in teachers, school librarians' impacts on reading scores, and self-efficacy in school librarians as well as a brief look at how self-efficacy levels can be boosted through preservice programs and professional development.

Theoretical Framework

A theoretical framework gives a foundation to the building of a research study. The theoretical framework for the proposed study begins with Bandura's social cognitive theory (Bandura, 2012; Sehgal et al., 2017). Teacher self-efficacy theory lies within Bandura's social cognitive theory. This theory states that teacher effectiveness can be directly related to teacher self-efficacy (Sehgal et al., 2017). The following will discuss previous research that is based on Bandura's social cognitive theory and teacher self-efficacy theory. The Rand researchers and Rotter's (1966) theory of the lotus of control (Zee & Koomen, 2016) will also be discussed as the start of research on the teacher self-efficacy theory.

Rotter's Locus of Control

Zee and Koomen (2016) discussed Rotter's (1966) theory of the locus of control as an important part of the teacher self-efficacy theory. Based on empirical studies, Rotter (1966) described this theory as the expectancy that individuals will develop control in relation to their environment and experiences. People all think and feel differently about their relationship to the

environment, the reactions they have towards it, and the internal and external controls to these reactions (Zee & Koomen, 2016). Zee and Koomen described this as when people's actions are reinforced by something such as an award, their internal locus of control is further developed, and they become more efficacious.

This theory was the foundation for the work conducted by the Rand researchers in the 1970s (Tschannen-Moran & Hoy, 2001a). The Rand researchers used Rotter's (1966) theory and began to study teacher self-efficacy by creating a simple assessment to study how teachers felt about the impact they have on their students, regardless of the child's home environment (Zee & Koomen, 2016). This two-item instrument can be credited as the starting point towards further and more in-depth research into teacher self-efficacy and fueling other researchers, such as Bandura, to look deeper into student achievement and teacher self-efficacy (Zee & Koomen, 2016).

Zuber and Altrichter (2018) conducted a study using Rotter's locus of control theory as well as self-efficacy and positive affectivity to study how these factors of teachers' characteristics can predict their behavior throughout educational reform. The researchers felt that those teachers with "high self-efficacy, internal locus of control, and positive affectivity" (Zuber & Altrichter, 2018, p. 185) will adapt and change seamlessly throughout educational reform. Zuber and Altrichter combined different instruments to create one that measured each theory. The study indicated that self-efficacy and positive affectivity do contribute to teachers' ability to make changes; however, locus of control did not (Zuber & Altrichter). This may be contributed to the idea that locus of control is influenced by the "frequency, length, and intensity of experiences" (Zuber & Altrichter, 2018, p. 196), and that change happens rapidly in education, therefore teachers do not feel as if they have control.

Bandura's Social Cognitive Theory

Bandura (2001) described social cognitive theory as having the agency and ability to influence one's actions. Bandura stated that previous behavioral theories described the human mind as input-output models, and that one reacts based on what happens from outside factors. Since this is very similar to how computers function, further thought was put into how humans act, react, and function (Bandura, 2001). Bandura (20001) described consciousness as "the very substance of mental life" (p. 3) that allows humans to live and manage themselves. People have agency over their experiences and reactions, which is the basis of Bandura's social cognitive theory.

Social cognitive theory is the idea that people are not simply reactive creatures, but are "generative, creative, proactive, and reflective" (Bandura, 2001, p. 4). Because of this, Bandura stated that people can view a task before them, create change, make things happen, and decide for themselves how they will react to events surrounding them. This allows people to be flexible, intentional and reflective (Bandura, 2001). The social cognitive theory links "causation, behavior, cognition and other personal factors, and environmental influents" (Bandura, 1989, p. 2) in a reciprocal manner and that some factors may influence a person more than others. A person reacts based on physical, sensory, and neural systems as well as factors of their environment (Bandura, 1998).

Warren and Hale (2016) stated that self-efficacy is tied to social cognitive theory due to the "cognitive, emotional, and behavioral responses" (p. 188) that humans have. People have "personal resources" (Bandura, 1998, p. 8), which help them to build their self-efficacy. These resources include "the development of competencies, self-beliefs of efficacy to exercise control, and self-regulatory capabilities for influencing one's own motivation and actions" (Bandura,

1998, pp. 8-9). Bandura stated that humans need other people that offer support as they navigate the paths they take, the stresses they encounter, and the obstacles they face. Without those social ties, people become vulnerable and less determined to overcome obstacles (Bandura, 1998).

Bandura (1998) felt that believing one has control over events and how one is affected by them are the most essential and pervasive of all thoughts that one may have. This self-efficacy serves "as one set of proximal determinants of how people behave, their thought patterns, and the emotional reactions they experience in taxing situations" (Bandura, 1998, p. 59). Being able to look back at how one handled a situation and liking or disliking the outcome can either raise or lower one's sense of self-efficacy (Bandura, 1989).

Bandura's Teacher Self-Efficacy Theory

Bandura (2012) believed that self-efficacy is developed in four ways: mastery experiences, social modeling, social persuasion, and by one's social and emotional state. When people experience success, they are encouraged that they can succeed again, and the same goes for failure. Social modeling is when people observe their peers being successful, which sets a positive example (Bandura, 2012). When people are encouraged by others and praised for their efforts, the third mode, social persuasion, occurs. The final mode for developing self-efficacy, as stated by Bandura (2012), is through physical and emotional states.

Teacher self-efficacy is based upon these same principles. According to Zee et al. (2018), teachers' sense of self-efficacy is one of the most important beliefs they may hold. Zee et al. stated that many sources support the thought that teachers' self-efficacy in the classroom determine the kind of lessons teachers will plan, activities they will have students participate in, and the effort they put forth when working in difficult classrooms. Bandura (1998) stated

teachers that are knowledgeable in their subject area and have high self-efficacy can improve student motivation and academic achievement.

While many definitions exist for teacher self-efficacy, Shoulders and Krie (2015) defined it as a cognitive state that improves as teachers gain confidence in their abilities to manage classrooms and impact student achievement. Klassen and Tze (2014) stated that teacher self-efficacy improves persistence when working with students that present challenges while influencing teaching practices, excitement for teaching, commitment to the profession, and classroom management. This theory is important to study because of the prior research completed that indicates teachers with high self-efficacy affect higher student achievement (Klassen & Tze, 2014; Perera et al., 2019).

Related Literature

Self-efficacy in teachers is related to the quality of teaching and sustainability or length of time in the profession for teachers (Yoo, 2016). Perera et al. (2019) suggested the need for further study based on subject taught to examine teacher self-efficacy levels. The literature will be discussed on the topics of school librarians, standardized test scores in reading, and teacher self-efficacy. Related literature will be discussed to see what findings have been determined and to examine the gap in the literature on school librarians' self-efficacy based on school level and if self-efficacy levels of school librarians have a relationship with on elementary schools' overall average reading scores.

Teacher Self-Efficacy

Self-efficacy is the belief "in the capability to carry out desired courses of action in the service of valued goals" (Klassen & Tze, 2014, p. 61). Teacher self-efficacy, in simple terms, is believing one can make a difference in the lives of the students; feeling as if one has the skillset

to teach them, having good classroom management skills, and having confidence in being able to reach even the most difficult students (Klassen & Tze, 2014; Tschannen-Moran & Hoy, 1998). Educational research also states that self-efficacy among teachers can be a predictor of student achievement (Klassen & Tze, 2014; Perera et al., 2019). Research on this topic began in the 1970s with the Rand Corporation (Zee & Koomen, 2016) and has been a focus of studies of late due to educational institutions wishing to promote teacher satisfaction and effectiveness while reducing the number of teachers leaving the profession (Perera et al., 2019).

Zee and Koomen (2016) conducted a meta-analysis of 40 years of research on teacher self-efficacy to focus "not only on outcomes related to teaching and learning but also on teachers' welfare" (p. 982). As far back as the 1970s, research has shown that teacher self-efficacy has an impact on students' achievement as well as their motivation to succeed (Zee & Koomen, 2016). Several researchers have concluded that teachers with high self-efficacy are more likely to have an increased academic focus in the classroom, will be more persistent in their teaching, and will provide different types of feedback to their students than teachers with low self-efficacy levels (Zee & Koomen, 2016). According to Zee and Koomen, a reciprocal pattern occurs when highly efficacious teachers are met with greater student accomplishments and feelings of personal accomplishments, and then in turn promote even higher self-efficacy. Having high self-efficacy was found as one of the main factors of teachers' satisfaction in their jobs with lower stress levels than those with low self-efficacy, as those teachers are more motivated and satisfied (Zee & Koomen, 2016).

Perera et al. (2019) conducted a study using the TSES short form to examine the "suspected heterogeneity in teacher self-efficacy data by examining profiles of teachers' hierarchical and multidimensional self-efficacy beliefs" (p. 189) as well as to examine if teachers

can hold different levels of self-efficacy and how those differ among lower and upper grade teachers. Perera et al. felt that teachers could hold different levels of self-efficacy and different beliefs on their self-efficacy based on the domain. The domains they referred to are "subject field knowledge, pedagogical competencies, assessment practices, classroom management practices, and individualized learning" (Perera et al., 2019, p. 189). The study reported that overall, teachers that were highly inefficacious were not satisfied in their jobs, regardless of upper or lower grade levels (Perera et al., 2019). Classroom management and climate, teacher collaboration, and student engagement appeared to all be higher for those teachers with high levels of self-efficacy, again, regardless of grade level taught (Perera et al., 2019). The study by Perera et al. suggested that teachers can possess different levels of self-efficacy across the different domains, such as subject knowledge and classroom management.

Perera et al. (2018) examined the personality traits of teachers and the relationship to their self-efficacy and how personality profiles differ in regarding "self-efficacy for teaching, work engagement, and job satisfaction" (p. 171). This study was conducted in Australia with 574 participants (Perera et al., 2018). The first assessment used was the Mini-IPIP (International Personality Item Pool) to determine the Big-Five personality traits of the teachers and then the TSES-SF was used to determine their sense of self-efficacy (Perera et al., 2018). The teachers also completed the Engaged Teachers Scale for work engagement and the Brief Job Satisfaction Measure for job satisfaction (Perera et al., 2018). The teachers with the well-adjusted profile had significantly higher levels of self-efficacy in relation to student-engagement and their instructional strategies above the other profiles as well as job satisfaction (Perera et al., 2018). These well-adjusted personality teachers also had higher self-efficacy in "classroom management

and cognitive engagement, emotional engagement, and engagement with colleagues" than the other profiles (Perera et al., 2018, p. 177).

Klassen and Tze (2014) examined the relationship between teachers' personalities and their psychological characteristics of self-efficacy and any external influences to understand this better as well as to improve teacher training, through a meta-analysis of related literature. Klassen and Tze hypothesized that teacher self-efficacy would be more closely "related to personality than measured teaching effectiveness" (p. 62). Forty-three studies were selected to be included in this meta-analysis and were coded for date of publication, size of the sample, measurement used, and the "relationship between psychological characteristics and external measure of effectiveness" (Klassen & Tze, 2014, p. 62). Klassen and Tze also coded these studies for the "type of psychological characteristic (self-efficacy or personality), and type of indicator of teaching effectiveness (student achievement or evaluated teaching performance)" (p. 62).

The results of the meta-analysis by Klassen and Tze (2014) revealed a small but significant relationship "between teachers' psychological characteristics and external measure of teaching effectiveness (r = .10), equivalent to Cohen's 'small' descriptor" (p. 71). The relationship between teaching effectiveness and student outcomes, again, had small but significant effect sizes (Klassen & Tze, 2014). Only one study that was included in this analysis examined teacher personality and student achievement; however, Klassen and Tze felt that "the relationship between self-efficacy and evaluated teacher performance (r = .28) is substantial, meaningful, and worthy of further investigations for self-efficacy interventions and training" (p. 72). Klassen and Tze noted that the study was limited by an imbalance in self-efficacy and

personality studies and those examining the relationship between the effectiveness of teachers and their psychological characteristics.

Zee and Koomen (2016) also conducted a meta-analysis including 165 articles of research that covered 40 years of studying teacher self-efficacy and the impact it has on the classroom and student achievement. As far back as the Rand studies in the 1970s, teacher self-efficacy was hypothesized to be highly beneficial to student achievement (Zee & Koomen, 2016). Since then, further research has indicated the same thoughts as well as the idea of self-efficacy relating to the teachers' own well-being in their profession and their personal accomplishments based on the reciprocal effects of self-efficacy (Zee & Koomen, 2016).

A main finding of this meta-analysis was that teachers with high self-efficacy "tend to effectively cope with a range of problem behaviors; use proactive, student centered classroom behavior strategies and practices and establish less conflictual relationships with students" (Zee & Koomen, 2016, p. 998). Zee and Koomen (2016) felt that their analysis supported other studies' results of teachers with high self-efficacy directly correlating with higher student achievement; however, student motivation is more closely related to teachers having high self-efficacy.

As Bandura (2012) suggested that experiencing mastery can heighten self-efficacy levels, a series of struggles can reduce self-efficacy levels. Working with students with low academic achievement and seeing little or no improvement can negatively impact teacher self-efficacy (Wang et al., 2017). Wang et al. (2017) conducted a study in Singapore to look "into the efficacy sources of teachers with high and low efficacy who work with low-achieving students in Singapore" (p. 142). Due to the desire to have differing methodologies in the field of teacher efficacy, this study followed a pragmatic, qualitative design to examine the sources of efficacy

for teachers of low performing students (Wang et al., 2017). The TSES was used in the first phase of this two-phase study of 262 English and science teachers (Wang et al., 2017). Of those, the teachers that scored in the top 25% of having high self-efficacy and the bottom 25%, with low self-efficacy, nine teachers were asked to participate in the second phase of the study (Wang et al., 2017).

The second phase included interview protocols which were based on the model of teacher efficacy as discussed by Tschannen-Moran et al. (1998). The interviews conducted for the Wang et al. (2017) study included open-ended questions, and the answers were analyzed for recurring themes. These themes included mastery experiences, verbal persuasion, vicarious experience, physiological and emotional arousal, knowledge about students, rapport with students, and previous work experience (Wang et al., 2017). Wang et al. supported Bandura's theory that when teachers feel successful, their efficacy improves, and these mastery experiences can be from a variety of areas. Just the perception of success is enough to raise self-efficacy levels.

It was noted in the study by Wang et al. (2017) that teachers with high self-efficacy, even when working with struggling students, could see success in small ways. Those with low self-efficacy continued to feel the same and felt that, since there was little academic progress, the verbal feedback they received was negative as was their own emotional states (Wang et al., 2017). Wang et al. felt that Bandura's four sources of self-efficacy were not enough to truly identify sources of efficacy and that the additional three, knowledge about their students and rapport with their students as well as work experience, further tell the story of teacher self-efficacy levels, which can result in higher student achievement.

Others have examined what outside factors affect teacher self-efficacy, such as the leadership they are under (Sehgal et al., 2017) and professional development (Hess, 2016). It is

interesting to note the study conducted by Chao et al. (2018), as they measured specific tasks related to teacher self-efficacy. These tasks included collaboration, managing behaviors, and using inclusive instructions (Chao et al., 2018). The study by Chao et al. indicated that collaboration represented the highest teacher efficacy for teachers of primary and secondary students. The lowest teacher efficacy levels regarding classroom management was found in secondary teachers (Chao et al., 2018). Chao et al. suggested this may be because this study was conducted in Hong Kong, and students that presented negative behaviors are not typically allowed into mainstream secondary schools, and those that are admitted have had rigorous training on behavior expectations. Therefore, the teachers do not build up high self-efficacy in classroom management, where the primary teachers must deal with behaviors regularly (Chao et al., 2018). According to Bandura (2012), outside factors do impact self-efficacy. Chao et al. agreed with Bandura and felt that further training should be provided to preservice teachers on collaborations and through field experiences.

Classroom teachers would be considered the primary factor in student achievement, but school librarians and school administration could be secondary, as both interact with students and because administration can have an impact on teacher efficacy. Leonard and Green (2018) conducted a quantitative study to examine the relationship between teacher self-efficacy and leader emotional intelligence (EI). Teacher self-efficacy has been shown to impact student achievement, and school leaders' EI can be related to student achievement since it can directly affect teacher performance (Leonard & Green, 2018). The study by Sehgal et al. (2017) also supported this, as findings suggested that school principals can impact the perceptions teachers have on themselves.

Cansoy and Parlar (2018) conducted a quantitative study with results that "showed positive and significant relationships between school leadership, teacher self-efficacy, and collective teacher efficacy" (p. 560). They stated, "Collective teacher efficacy refers to teachers' perceptions that their efforts at school can have a positive influence on student achievement" (p. 550), similar to teacher self-efficacy. Zee et al. (2018) subscribed to the idea that outside factors, such as school principals and students' home life have impact on the relationship between teachers' self-efficacy and student achievement.

Siciliano (2016) named three primary factors that affect teachers' self-efficacy: individual attributes, school attributes, and social networks. Siciliano (2016) felt that individual attributes are possibly shaped by social networks, as indicated by the study to explore how social networks affect self-efficacy. Bandura's (1989) social persuasion concept was the foundational concept, and Siciliano attempted to link knowledge access and peer influence through social networks and self-efficacy. Social persuasion is defined as gaining feedback from a peer or mentor with suggestions to improve one's performance (Siciliano, 2016). After analyzing the many variables in this study, "the results of the analysis provide tentative evidence to suggest that both knowledge access and peer influence are positively associated with teacher self-efficacy" (Siciliano, 2016, p. 249). This supports the idea that outside factors do affect self-efficacy.

Interestingly, there are studies that have found that elementary school teachers have higher self-efficacy than middle school teachers (Ryan et al., 2015). This may be related to the idea of middle school students being less interested in academics and more interested in peer relationships or to the difference in the structure of the middle school and how the teachers see a larger number of students per day than elementary school teachers (Ryan et al., 2015). Shoulders and Krie (2015) stated that there are very few studies conducted on self-efficacy levels of

teachers in rural high schools. To remedy this, they conducted a causal-comparative quantitative study using an ANOVA to examine the cause or reason for the difference found in self-efficacy levels in rural high school teachers (Shoulders & Krie, 2015). The instrument used was the Teacher Sense of Efficacy Scale short form; they found that teachers with education higher than a master's degree and more than five years of experience appear to have higher self-efficacy when it came to the subscales of classroom management and instructional practices (Shoulders & Krei, 2015). They found no statistical significance for the subscale of student engagement regardless of the number of years teaching or degree held (Shoulders & Krei, 2015).

Job satisfaction can also be linked to teacher self-efficacy (Edinger & Edinger, 2018). Edinger and Edinger (2018) stated that teachers who have high levels of self-efficacy are more likely to stay in education than those with low levels of self-efficacy, and those in collaborative partnerships with co-workers have higher levels of self-efficacy, all of which directly impact student achievement. Schiefele and Schaffner (2015) discussed a study that "distinguished among teachers' sense of efficacy with regard to effective instructional strategies, classroom management, and student engagement" (p. 161). Teachers' self-efficacy levels have been related to the time spent planning exciting and engaging lessons, tolerating mistakes, and supporting student autonomy (Schiefele & Schaffner, 2018). According to Varghese et al. (2016), "Not only are highly-efficacious teachers more likely to try new instructional practices, but they are also more likely to use instructional practices that directly and positively impact students who struggle in the classroom" (p. 230). Even with outlying factors that can affect teacher self-efficacy, understanding that self-efficacy can directly impact student achievement is important.

The Role of School Librarians

School librarians' roles have changed dramatically over the years, and they are no longer considered simply the "keeper of the books" (Wine, 2016, p. 208). School libraries were developed in the early part of the 20th century and slowly took shape over the next 50 years (Wine, 2016). In the 1920s and 30s, it was expected, as stated in the standards, that school librarians were to play an integral role in educating the students (Howard, 2017). In the early to mid-1920s, though, very few school libraries were found in elementary schools (Woolls et al., 2014). The 1950s brought in a focus on "learning and delivering instruction" (Howard, 2017, p. 67), which found the school librarians becoming more involved in the development of the curriculum. In 1960, the American Association of School Librarians created and published new standards that helped qualified school librarians build their collections (Wine, 2016).

Once research showed that school libraries and librarians have an impact on academic achievement, the Elementary and Secondary Education Act (ESEA) of 1965 provided funding for more school libraries and qualified school librarians (Wine, 2016). Funding increased for a while, but as funding from the federal government began to dwindle due to other programs in the 1980s, it seemed that school libraries would suffer (Woolls et al., 2014). Thanks to a funding grant for $40 million dollars toward elementary and middle school libraries and studies by library researchers, it has become more widely known that school library programs are important to student academic success (Wools et al., 2014). Since then, much has changed and the AASL standards were revised to support student achievement through a variety of teaching practices.

Dickinson (2015) stated school libraries have moved "away from quantitative standards mandating collection size and facility seating to qualitative standards describing how school libraries support instruction" (p. 24). Years ago, school librarians worked hard to maintain the

collection, ensure the collection matched the curriculum, and read to children or assist with research. While that has not changed, there have been many more roles and responsibilities added to school librarians' jobs. Lo and Chiu (2015) described some of these new roles as "educators, administrators, teaching consultants, information specialists, and information literacy (IL) teachers" (p. 666). The study conducted by Lo and Chiu also concluded that schools heavily rely on the school library for inquiry-based learning, supporting teachers, and supporting students' learning and reading for pleasure.

Woolls et al. (2014) discussed school librarians as having become leaders in their schools as collaborative partners and curriculum builders. Not only is there still a focus on books in the school library, but also on the many formats, such as "e-books, audio books, animated books, and interactive books" (Woolls et al., 2014, p. 14). School librarians need to be able to help student researchers navigate the forms of reference materials, both print and electronic, and ethically use this information while determining which sources are reliable (Woolls et al., 2014).

With technology changing at a rapid pace, school librarians are often called upon as the experts in their building. This change began in the 1970s with technology on the horizon, and the phrase "information literacy" was coined by Paul Zurkowski (Wine, 2016), describing it as being able to find information on anything that is known. Since librarians were in the field of maintaining collections of information, it was a natural fit for them to be considered as the point of contact for anything relating to information, including technology sources (Wine, 2016). A study in New York by Small et al. (2010) concluded that librarians perform many duties, ranging from "changing bulbs in projectors, teaching students how to use technology to complete assignments, organizing a school-wide mock presidential election, and serving as a judge at the school spelling bee" (p. 25).

Johnston and Green (2018) examined how information literacy has impacted school library programs and found that school librarians are now teaching students not only how to locate sources for research, but also how to analyze it, use the information ethically, organize it, and present it. With school librarians being the resident experts on information literacy, they are often called upon as leaders (Johnston & Green, 2018). Lance and Kachel (2018) stated that school librarians are often very qualified to be technology leaders as well as instructional leaders and having a full-time, fully-certified school librarian is linked to higher student achievement due to the many roles that school librarians now hold.

The newest edition of the AASL (2017) includes six common beliefs that define the attributes a modern school library should have to support students and be considered central to school librarianship based on feedback from over 1,300 school librarians and stakeholders. These range from the school library as an essential part of the school to the need for qualified librarians (AASL, 2017). School librarians play a role in preparing students for college, their career, and their life outside of school as well as promoting the importance of reading for personal and academic growth (AASL, 2017). Intellectual freedom is supported by school librarians as the right of each student, and information technology must be made available to all students and incorporated into the educational program appropriately (AASL, 2017).

School Librarians' Impact on Student Achievement

The impact that certified school librarians can have on reading scores is found in numerous studies that cover many years, such as Coker's 2015 study in Washington. It is necessary to reiterate that certified school librarians in Virginia are certified teachers with an added library endorsement (Library Media Prek-12, 2018.). Some school systems are facing budget cuts and hiring those without certification to serve as school librarians (Coker, 2015).

This is important because they are not certified and school librarians do teach lessons, both with teachers and separately from teachers (Coker, 2015). Coker (2015) stated that certified school librarians are more likely to be involved in teaching core content and to have a more up-to-date library curriculum that supports the standards than those that are not certified. School librarians "play an important role in teaching students the critical thinking and practical skills necessary to navigate the barrage of information to which they are daily exposed" (Coker, 2015, p. 18).

Lance et al. (2014a) conducted research to examine the impact school librarians had on test scores in South Carolina and found that both male and female students, lower income students, and students of minority groups who attended schools that are staffed with a full-time librarian and either a full- or part-time assistant demonstrated strengths on writing standards as well as ELA standards. This was evident in both elementary and middle schools (Lance et al., 2014a). A second phase of this study collected qualitative data on how administrators and teachers view school librarians and library programs and their impact on students, which overwhelming demonstrated "that teachers, principals and other administrators greatly respect them, appreciate all that they do, and regard them as essential" (Lance et al., 2014b, p. 4).

Lance et al. (2000) had similar findings in a study in Pennsylvania. The study indicated that the hours worked by the staff in school libraries is correlated with scores on the Pennsylvania System of School Assessment tests (Lance et al., 2000). The researchers could not link any other variable, such as poverty, per pupil expenditures, or community conditions (Lance et al., 2000). There are some characteristics of the library programs that seem to impact student achievement, though, including "school library expenditures, information resources, information technology, and staff activities that help to integrate information literacy into the school's approaches to standards and curricula" (Lance et al., 2000, p. 35). The results of this study

simply stated that schools, regardless of level, with adequate staffing in the library reported average or above average reading scores, and schools with inadequate staffing in the library reported below average reading scores (Lance et al., 2000). The researchers also noted that reading test scores rise as school librarians collaborate with teachers, teach information literacy, provide professional development for teachers, serve on standards and curriculum committees, and manage information technology (Lance et al., 2000), all things that most school librarians complete as a part of their job.

Park and Yau (2014) conducted a study to examine the impact that school library services have on both English and Spanish-speaking Hispanic students in schools in the United States. Another aspect the researchers attempted to study was the association between the use of the school library and academic achievement (Park & Yau, 2014). Over 2,000 Hispanic students were included in this study; 1,055 who speak English as their native language and 1,019 whose native language is Spanish (Park & Yau). This study included many variables such as socioeconomic status, library use, gender, native language, and reading and math test scores (Park & Yau, 2014).

The results of the study by Park and Yau (2014) pointed to library use for class purposes to have a positive impact on standardized test scores while using the library for purely entertainment purposes had a negative impact. The data was first analyzed using a hierarchical regression for each language group and for reading and math scores (Park & Yau, 2014). The results were consistent across the language groups and subjects (Park & Yau, 2014). The researchers concluded that Hispanic students that use the school library for class work have higher test scores and that the effect size is greater for those that speak Spanish as their native language than those whose native language is English (Park & Yau, 2014). When including the

"other variables such as SES, gender, and student effort" (Park & Yau, 2014, p. 13), using the library made a significant impact on test scores.

A study conducted in Missouri found that school libraries "account for 10.6 percent of the variation in student achievement" (Quantitative Resources, 2003, p. 1) on the Missouri Assessment Program (MAP) tests. This study noted that there are three main components to this impact: library usage, summer reading programs, and library access along with the human touch of the school librarian (Quantitative Resources, 2003). It was stated that while demographic characteristics did have an impact, they did not eliminate the positive relationship of the school librarian and reading scores (Quantitative Resources, 2003). These findings supported the many other studies' results: that school librarians impact student achievement in reading, such as in Merga's (2019) study that stated school librarians improve student access to books.

Of the activities that school librarians do to support literacy, reading to students is one of the most effective (Merga, 2019). While read-alouds happen in classrooms, time in the library is often dedicated to this activity as well as silent reading time (Merga, 2019). Librarians know that the number one factor that will improve students' academic achievement centers around reading (Merga, 2019). Merga (2019) stated that there are numerous ways librarians support readers such as providing appropriate reading material, supporting reading choices, offering support to students with special needs, showcasing reading and books, conducting read-alouds and silent reading times, and helping students prepare for standardized tests. Through these and so many other activities, students are exposed to a plethora of information through school librarians.

Burgin and Bracy (2003) conducted a similar study in North Carolina. The survey of school librarians across the state collected information on the variables such as "staff activities, service hours, library usage, library technology, internet access, operating expenditures,

management, and school demographics" (Burgin & Bracy, 2003, p. 28). The analysis of each variable's relation to student achievement was conducted "by computing the value of Pearson's correlation coefficient between the variable and student achievement" (Burgin & Bracy, 2003, p. 33). As in other similar studies, a relationship between school librarians and the number of hours they were on duty and student achievement was found with a statistically significant correlation (Pearson $r = 0.272$, $p = 0.001$, $N = 152$) (Burgin & Bracy, 2003). Other factors were considered, such as the age of the collection and expenditures, which positively influenced test scores, but they also were positively related to having fully staffed libraries (Burgin & Bracy, 2003).

Small et al. (2010) examined how school librarians impact student achievement and motivation in New York through a three-phase study that identified seven areas of interest. These were learning and motivation, librarian-teacher collaboration, technology use, inclusion, administrative support, outreach, and library environment (Small et al., 2010). Phase I of the study consisted of a general survey of 1,612 school librarians and 562 principals (Small et al., 2010). Phase II's survey participants included 47 school librarians, 134 classroom teachers, and 1,153 students in 47 different New York schools (Small et al., 2010).

Finally, Phase III narrowed down the participants to two schools, one elementary and one middle, and included qualitative and ethnographic research (Small et al., 2010). The results concluded that "librarians and library programs appear to positively influence students' research-skills development and motivation" (Small et al., 2010, p. 25). They also seem to have a positive impact on reading skills and test scores as well as reading interests (Small et al., 2010). Students and teachers alike benefit from the "welcoming, safe, and comfortable environment" when using the library, which promotes further use of the school library (Small et al., 2010).

Fourie and Loe (2016) discussed studies by the National Center for Education Statistics that supported other studies' results of how school libraries improve student achievement. It is mentioned that students that score lowest on standardized tests tend to "make less focused use of library resources" (Fourie & Loe, 2016, p. 68). Those students that score in the mid to upper range appear to use the library in a more focused manner for assignments, research, and projects (Fourie & Loe, 2016). Seventy-nine percent of students stated that the school librarians are quite helpful (Fourie & Loe, 2016). Fourie and Loe stated that schools that have highly-qualified and highly-educated school librarians on staff had significantly higher student achievement. Schools with highly-qualified librarians have been "correlated to a 13 percent increase in reading performance for elementary, 8 percent for middle, and 7 percent for high school students" (Fourie & Loe, 2016, p. 68). According to Fourie and Loe, elementary and middle schools with highly-qualified school librarians have a 17% increase in writing scores. This is compelling evidence that school librarians make a positive impact on students' academic achievement (Fourie & Loe, 2016).

Roberson et al. (2005) conducted a study to further the understanding of student achievement and the use of the school library and to examine "factors and influences related to school professionals' support and utilization of library programs" (p. 46). The goal of the researchers was to determine what motived teachers to use the school library and promote school library programs to further support preservice programs for principals, school librarians, and teachers (Roberson et al., 2005). The first phase of this research conducted in Mississippi schools mirrored other studies and positively linked student achievement to school libraries. The study then "examined the attitudes and perceptions of teachers, librarians, and principals within these schools to determine whether these perceptions and sentiments were related to teachers' and

principals' support and utilization of the library for classroom instruction and related activities" (Roberson et al., 2005, p. 46).

A survey was conducted with participants from 187 schools, including elementary, middle and high (Roberson et al., 2005). A total of 880 participants took part in the study: "170 principals, 179 librarians, and 531 teachers from various teaching specialties" (Roberson et al., 2005, p. 47). The results indicated that librarians and principals were more amenable to the teacher and librarian co-planning lessons, and teachers felt the school librarians should spend more time with students than with teachers (Roberson et al., 2005). It was evident that the higher the regard given to school librarians by the teacher or principal, the more likely they were to view working cooperatively with the librarian (Roberson et al., 2005). Roberson et al. (2005) stated that most teachers and principals did not have any training in their preservice programs on working with the school librarian for support and collaborations. The data did show that the higher regard the principal has toward the school library, the greater the impact on student achievement due to influences over collaborations, schedules, and allocations of resources (Roberson et al., 2005).

Farmer (2006) examined the elements of the school library program that impact student achievement based on national standards and how librarians and administrators perceive library programs. The AASL rubric for library programs was the instrument Farmer used for this study, administering it to school librarians and administrators in Southern California. Farmer then compared these results to student achievement on state standardized tests and demographics for the 60 schools that participated. Even though the study was small and self-reported, the researcher felt the results were worth consideration. Results of this study indicated that school librarians and administrators "do not disagree significantly about the degree of implementation

of school library programs" (Farmer, 2006, p. 28). The study also indicated that well-implemented school library programs correlate with higher reading comprehension and vocabulary scores (Farmer, 2006).

Another way that school librarians can impact schools is through the mentorship of new or beginning teachers, which may affect their stamina to stay in the profession (Soulen & Wine, 2018). According to Soulen and Wine (2018), teacher retention among teachers in their first three years is a problem in the United States, which "is a concern as it relates to school cohesion and, in turn, student performance" (p. 80). School librarians recognize the need to support new and beginning teachers as they enter their schools as a preventative measure to the high rate of teachers leaving in the first years of their career (Soulen & Wine, 2018).

To find out just how school librarians support and build resilience in new and beginning teachers, Soulen and Wine (2018) conducted a qualitative case study. The study included 11 participants; six were new or beginning teachers and five were school librarians (Soulen & Wine, 2018). The results of the study indicated that school librarians can help new teachers in a variety of ways. The librarian can establish a relationship with new teachers and offer a "safe zone, a retreat, and a place of replenishment for new professionals" (Soulen & Wine, 2018, p. 89). This welcoming space can help to promote the library and librarian as a valuable resource not only to the teacher but in how the teacher and librarian can work together to support their students (Soulen & Wine, 2018). According to Soulen and Wine, by encouraging these relationships, new and beginning teachers are more likely to come to the librarian for support, which in turn can promote teacher retention. Parents, administrators, and the community depend on highly qualified and experienced teachers (Soulen & Wine, 2018).

Scholastic Library Publishing (2016) compiled many research studies to support the effectiveness of school libraries and detailed an overwhelming amount of information that tells the story of the importance school libraries and school librarians to student achievement. The report stated that "a credentialed school librarian, collaboration and co-teaching, technology access, [and] collection size all elevate student learning" (Scholastic Library Publishing, 2016, p. 1). Lance and Hofschire (2012) noted that previous studies as well as their own demonstrate that school librarians are directly related to students' test scores: "Regardless of how rich or poor a community is, students tend to perform better on reading tests where, and when, their library programs are in the hands of endorsed librarians" (p. 9). Coker's (2015) findings indicated that higher numbers of students passing standardized tests can be found in schools with certified school librarians. Through the results of all these studies, it can be concluded that school librarians have a positive impact on student achievement, especially in reading (Coker, 2015; Lance & Hofschire, 2012; Scholastic Library Publishing, 2016,).

School Librarians and Self-Efficacy

School librarians with high degrees of self-efficacy regarding their own leadership skills are more likely to collaborate with teachers for planning, teaching, and assessing understanding (Ash-Argyle & Shoham, 2014). School librarians must have high levels of self-efficacy to live up to this finding (Ash-Argyle & Shoham, 2014). Cansoy and Parlar (2018) noted this same finding in their study in relation to teachers and administration impacting self-efficacy. There is a decided gap in the research on how school librarians' self-efficacy levels affect student achievement on standardized reading assessments. Very little information could be found that directly related school librarians' self-efficacy levels and student achievement.

Teaching Self-Efficacy

Clark and Newberry (2019) discussed the idea of self-efficacy decreasing as teachers move throughout their career and suggested that certain aspects of preservice programs can prevent that slide. Based on Bandura's (2012) principle of the four sources of efficacy—mastery experiences, vicarious experiences, social persuasion, and physiological and affective states—Pfitzner-Eden (2016) felt that preservice programs can graduate teachers with high self-efficacy. Wang et al. (2017) also concluded that the findings of their study indicate that "designing meaningful and impactful teacher learning programs" (p. 148) could improve teacher self-efficacy levels of new teachers.

As Pfitzner-Eden (2016) suggested, these areas can be provided during teacher education programs. Mastery experiences can happen during student teaching and observing success when children learn (Pfitzner-Eden, 2016). Vicarious experiences happen when in a practicum setting and observing a seasoned teacher in action (Pfitzner-Eden, 2016). When mentor teachers provide feedback and offer support, social persuasion occurs (Pfitzner-Eden, 2016). Social persuasion happens when mentors, or others that are highly regarded, give feedback and encourage preservice teachers that they have the capability to do well in the teaching profession (Pfitzner-Eden, 2016). Emotions can run high during student teaching, both positive and negative. When student teachers feel stress, anxiety, joy, or pride, physiological and affective states are put into action, creating experiences that can improve self-efficacy (Pfitzner-Eden, 2016).

Though not focusing on school librarians, a study by Trendowski et al. (2016) indicated that student teaching for those going into teaching physical education improved teacher self-efficacy. Another preservice program also was studied for those preparing to teach reading in middle school (Rogers-Haverback & Mee, 2015). This study focused on field-based experiences

as well and showed through both qualitative and quantitative data that higher self-efficacy was reported following the field experiences required by the program (Rogers-Haverback & Mee, 2015).

Preservice teachers' sense of self-efficacy may be improved through microteaching, according to Arsal (2014). Microteaching is "a system of controlled practice that makes it possible to concentrate on specified teaching behavior and to practice teaching under controlled conditions" (Arsal, 2014, p. 453). According to Arsal, microteaching has six stages: "Plan, Teach, Observe (Critique), Re-plan, Re-teach, and Re-observe" (p. 453). There have been numerous studies that concluded positive results from utilizing the six stages of microteaching, which allow preservice teachers to get detailed feedback based on their teaching and opportunities to improve (Arsal, 2014). According to Arsal, microteaching can have a positive impact on the self-efficacy levels of those preservice teachers.

When participating in microteaching, preservice teachers are given opportunities to teach, encounter struggles, and provided feedback and opportunities to learn how to be more successful (Arsal, 2014). Based on Bandura's (2012) thoughts on self-efficacy being developed through master experiences and verbal persuasion, these preservice teachers will become more highly efficacious through their microteaching experiences (Arsal, 2014.). Arsal conducted a study with 70 preservice teachers in Turkey to see if there is a difference in self-efficacy levels of those who experienced microteaching (n = 35) and those who did not (n = 35). The TSES was used for both groups as a pre- and post-test (Arsal, 2014). An ANCOVA was used to compare the difference in the results following the semester; the control group was taught using existing instruction and the experimental group was taught with microteaching. The pre-test was described as the covariate, the microteaching was described as the independent variable, and the sense of self-

efficacy in teaching was described as the dependent variable (Arsal, 2014). While both groups' sense of self-efficacy improved, the group that experienced microteaching "increased at a statistically significant level" (Arsal, 2014, p. 460). These results are similar to those in other studies on microteaching and self-efficacy levels (Arsal, 2014).

Clark and Newberry (2019) examined student teachers' self-efficacy using the TSES and a preservice teacher survey to find a correlation between the two using a linear regression analysis. Four subscales were included: Verbal Persuasion of Teacher Education Faculty, Verbal Persuasion of the Cooperating Teacher, Teacher Education Program Vicarious Experiences, and Student Teaching Mastery Experiences (Clark & Newberry, 2019). According to Clark and Newberry (2019), "The results of the regression indicated that all four variables included in the model were statistically significantly predictors of preservice teacher self-efficacy and together explained 18% of the variance [$R2 = .180$, $F(4,704) = 38.75$, $p = .00$]" (p. 39). This strongly suggests that the preservice program can impact future educators and their self-efficacy.

Schipper et al. (2018) discussed the idea of professional development (PD) and lesson study (LS) to help teachers with maintaining high self-efficacy. According to Schipper et al. (2018), "Teachers participating in LS follow systematic cycles of collaborative studying, planning, teaching and observing so-called 'research lessons,' focusing on the learning of pupils" (p. 109). These lessons are then evaluated and refined to improve student learning and teaching practice (Schipper et al., 2018).

Preservice, and even practicing, teachers and librarians are often encouraged to reflect on their teaching; however, evaluating one's own teaching can be difficult for many (Walshe & Driver, 2019). Walshe and Driver (2019) conducted a study to examine how reflective practices and self-efficacy may be improved by using 360-degree video. A 360-degree video "is an

immersive type of video content which allows the viewer to look around in all directions, giving them choice and control over what they see" (Walshe & Driver, 2019, p. 98). Watching a 360-degree video recording of oneself, either as a student teacher or a teacher, can help improve self-efficacy by allowing a virtual view of the entire room throughout the lesson (Walshe & Driver, 2019). Using video for feedback is often viewed as more useful than traditional reflective practice, as it allows the teacher and supervisor to be on the same page and not rely on pure memory of the event (Walshe & Driver, 2019). Using 360-degree video allowed the participants to "re-experience their teaching, emplaced within its space and time, *being there* in an embodied sense" (Walshe & Driver, 2019, p. 103). A theme that was evident in this study was that the student teachers felt they could improve and had more confidence after watching their videos (Walshe & Driver, 2019). It appeared that watching themselves do well supported Bandura's mastery experiences and raised self-efficacy (Bandura, 2012; Walshe & Driver, 2019).

Varghese et al. (2016) conducted a study in which an experimental group of teachers were trained in a specific, targeted reading intervention program and compared with a control group to see if the training enhanced their self-efficacy levels. The intervention did not result in any significant difference in "self-efficacy for classroom management, instructional quality, and student engagement" (Varghese et al., 2016, p. 234). The intervention that the experimental group received was specific to one-on-one literacy teaching and was not related to teacher-efficacy directly (Varghese et al., 2016). The results of the study by Schipper et al. (2018) did show an improvement in teacher self-efficacy among those who participated in the LS form of PD, which supported adaptive teaching. Adaptive teaching can be described as adjusting lessons to meet individual's needs and goals while relating to the teachers' subject knowledge, how students learn, teaching methods, and classroom management skills (Schipper et al., 2018). The

study conducted by Varghese et al. (2016) indicated that student growth and achievement improved teachers' self-efficacy. Varghese et al.'s (2016) study also indicated a relationship between teachers' confidence in their own classroom management abilities and their students' achievement in literacy.

Yoo (2016) conducted a study to investigate how professional development would impact teacher self-efficacy and how those changes would be interpreted by teachers. The treatment group in this study participated in a five-week online training module and feedback from coaches throughout the course (Yoo, 2016). The results indicated that teachers' efforts in the training impacted their self-efficacy while gaining new knowledge improved their self-efficacy (Yoo, 2016). The study conducted by Varghese et al. (2016) indicated that student growth and achievement improved teachers' self-efficacy. The study also indicated a relationship between teachers' confidence in their own classroom management abilities and their students' achievement in literacy (Varghese et al., 2016).

Perera et al. (2019) also noted that PD would be useful for improving self-efficacy; however, it must be individualized, not done as a one-size-fits-all approach. Kilday et al. (2016) also studied PD and teachers' improvement of their self-efficacy. Though their study focused more on the creation of a new tool to measure self-efficacy for student-oriented teaching, they felt that through PD, self-efficacy could be improved (Kilday et al., 2016). Based on these results, preservice programs and PD could be implemented to boost self-efficacy levels among school librarians if the results of this dissertation indicate a link between school librarians' self-efficacy and students' reading scores.

Mardis (2013) conducted a study of school librarians based on the preservice training they received and how they felt it prepared them for their profession. This small study consisted

of five participants, four years after finishing their MLIS degrees for school librarianship (Mardis, 2013). In the literature review of this article, Mardis discussed how preservice library students not only learn how to act like a school librarian, but also how to think like one. The human resources and organizational studies term of "transfer of training" (Mardis, 2013, p. 39) stated that training one receives can then be applied to the workplace. Transfer of training has seven dimensions, of which self-efficacy is included (Mardis, 2013). It is believed that self-efficacy can promote transfer thinking and commitment to one's profession (Mardis, 2013). The study concluded that transfer of learning and experiences, similar to Bandura's (2012) mastery of experiences, proved to be beneficial in building self-efficacy (Mardis, 2013).

Kimmel et al. (2016) had an interest in Dresang's (1999) Radical Change in which a "a world that was more connected, promoted active participation and allowed new possibilities for access to boundary-braking ideas" (Kimmel et al., 2016, p. 174) and how that could be related to preservice librarians and their future in school leadership and working with communities. They conducted a study that included a community service project for preservice librarians to help them "develop leadership skills and dispositions" as school librarians (Kimmel et al., 2016, p. 175). The purpose of the qualitative case study was to see how the participants saw themselves as leaders as they planned, implemented, and evaluated the required community service project (Kimmel et al., 2016).

The participants for this study were a cohort of 11 classroom teachers across Virginia who were earning a Master's in education with the library science endorsement through a scholarship program (Kimmel et al., 2016). Based on the results of the series of three interviews throughout the project, the researchers felt this was a "transformative approach to leadership development" (Kimmel et al., 2016, p. 185). Kimmel et al. stated that "this project allowed them

[the participants] to become agents of radical change" (p. 185). The researchers suggested that this model could be used widely in other preservice school librarian programs to encourage "authentic and meaningful leadership development experiences for their students" (Kimmel et al., 2016, p. 185).

Summary

Teacher self-efficacy, believing one can make a difference or impact students' learning, is linked with personal growth, job satisfaction, and sustainability as well as student achievement. There is some research on how preservice teacher programs can support high self-efficacy as well as PD for those already in the field. There is quite a bit of research on the concept of teachers' self-efficacy and how those with high self-efficacy can positively impact student achievement. School librarians also have an impact on student achievement. School librarians, who are teachers at the core, have the unique ability to impact the educational lives of all students in the school in which they work. Having high self-efficacy as a school librarian, it would seem, would truly make a positive impact and result in higher student achievement, especially in reading. It is important to find the link between self-efficacy and reading scores in order to highlight school librarians' impact on student achievement.

A gap in the literature exists, as there is very little research previously conducted on school librarians' self-efficacy and how that relates to student achievement on reading tests. There is also very little, if any, research conducted to examine difference among elementary, middle, and high school librarians' self-efficacy levels. This study examined school librarians' self-efficacy levels to see if there is a link between those levels and the standardized reading scores in Virginia elementary schools. The study also examined the levels of self-efficacy in elementary, middle, and high school librarians to see if they vary based on the school level in

which they work. The results of this study could be used to enhance preservice programs for school librarians to explore their self-efficacy levels and to help them to grow those levels and keep them high throughout their career. With very little research conducted on school librarians' self-efficacy levels, this study is important to the profession.

CHAPTER THREE: METHODS

Overview

The purpose of the following chapter is to discuss the causal-comparative and correlational quantitative research methodology design that was used for this research study. The study examined the self-efficacy of school librarians and if it differs based on the school level, elementary, middle, or high, in which they teach. It also examined if elementary school librarians' self-efficacy can predict reading scores. This research is important to address gaps in the literature and for preservice school library programs, current school librarians, and school districts. The design, research questions and hypotheses, participants and setting, instrumentation, procedures, and data analysis will all be discussed.

Design

This study employed two different research designs in order to answer the research questions. Research Question One (RQ1) used a causal-comparative design. Causal-comparative research is non-experimental and is conducted to identify naturally occurring the difference between groups (Gall et al., 2007). This design was appropriate because the researcher examined data to explore the difference (Rovai et al., 2013) among three groups: school librarians that work in elementary, middle, and high school libraries. The school librarians' self-efficacy served as the dependent variable (DV), and the school level in which those librarians work served as the independent variable (IV). Self-efficacy is generally defined as the belief that one can make a difference in students' academic achievement (Tschannen-Moran & Hoy, 2001a). The school levels in which school librarians work, or the IV, is generally defined for this study as elementary school ranging from Pre-K to fifth grade, middle school including grades six through eight, and high school with grades nine through 12.

The second Research Question (RQ2) used a correlational design. A correlational study "seeks to discover the direction and magnitude of the relationship among variables through the use of correlational statistics" (Gall et al., 2007, p. 636). Gall et al. stated that in a correlational study, data is collected on at least two variables, and a correlation coefficient is calculated. This design was appropriate for this study because it examined the relationship between variables (Rovai et al., 2013) to determine if school librarians' self-efficacy levels can predict overall average reading scores for elementary schools. The school librarians' self-efficacy served as the predictor variable (PV), and overall school pass rates on the Virginia Standards of Learning Reading Assessment was the criterion variable (CV). The Virginia Standards of Learning Reading Assessment school pass rates are generally defined as standardized test results that act as a factor in accountability for schools across the state of Virginia (VDOE, n.d.-a). This study collected information electronically. No harm could come to the participants, and the study poses no moral issues. All information collected was password protected and kept confidential.

Research Questions

The research questions for this study are as follows.

RQ1: Is there a difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high schools?

RQ2: Can teacher self-efficacy levels of elementary school librarians predict school overall average pass rates on the Virginia Standards of Learning Reading assessment?

Hypotheses

The null hypotheses for this study are as follows.

$H_0$1: There is no statistically significant difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high school librarians.

$H_0$2: There is no statistically significant predicative relathionship between teacher self-efficacy levels of elementary school librarians and school overall average pass rates on the Virginia Standards of Learning Reading assessment.

Participants and Setting

The participants for this study were drawn from convenience sample of school librarians that were members of the Virginia Association of School Librarians and working in a school library in Virginia in the 2018-2019 school year. The librarians that were in the study worked in elementary, middle, and high school libraries across the state. There were approximately 1,200 on the contact list; however, not all were school librarians at the time of recruitment. Some were retired while others were seeking employment in the profession. The sample size (*N*) for the study needed to be a minimum of 129 participants for RQ1; the researcher ended up with a total of 234 respondents. The data was screened, and those that did not meet the criteria were excluded and a random sample was drawn in order to have 46 in each group: elementary, middle, and high school librarians. This number allowed for a medium effect size at a 0.7 statistical power and an alpha value (α) = 0.05 to conduct an analysis of variance (ANOVA) according to Gall et al. (2007). According to Warner (2013), assuming a medium effect size for the bivariate linear regression at a 0.05 alpha with a statistical power of 0.7, the number of elementary school librarians would need to be 106, for RQ2, and there were 111 of those who met the criteria of having been in an elementary library the previous year. The participants across the state of Virginia accessed the assessment through their email addresses, and the survey remained open until the necessary number of participants are collected.

Instrumentation

This study included two instruments, the Teacher Sense of Efficacy Scale (TSES) and the

Virginia Standards of Learning Reading Assessment. The instrument is included in Appendix A and the permission to use the instrument is included in Appendix B.

Teacher Sense of Efficacy Scale

The Teacher Sense of Efficacy Scale (TSES), long form, created by Dr. Tschannen-Moran and Dr. Hoy (2001a), was used for this study. The permission to use the instrument is included in Appendix C. The purpose of this instrument is to test teachers' sense of efficacy when it comes to making an impact on student achievement. The TSES was created as a result of issues related to the instruments in existence at the time and a desire to learn more about teachers' sense of self-efficacy (Tschannen-Moran & Hoy, 2001a).

The previous instruments used to measure teacher self-efficacy offered much confusion due to the two-factor structure following a factor analysis (Tschannen-Moran & Hoy, 2001a). The two factors are "the extent to which teacher efficacy is specific to given contexts and to what extent efficacy beliefs are transferable across contexts" (Tschannen-Moran & Hoy, 2001a, p. 784). Tschannen-Moran and Hoy stated there was "confusion and debate about the meaning of these two factors" (p. 784). The lack of a thorough understanding of the conceptualization that makes up these constructs led to a lack of a clear measurement tool (Tschannen-Moran & Hoy, 2001a). Instruments such as the Rand measure, the teacher locus of control, the Webb scale, and Bandura's teacher self-efficacy scale were all examined and considered for the development of a more comprehensive instrument (Tschannen-Moran & Hoy, 2001a). Tschannen-Moran and Hoy (2001a) proposed an instrument that would identify those elusive constructs and provide a more reliable way to measure teacher self-efficacy. Both the TSES short form and TSES long form have been used in other studies, such as those by Chang and Engelhard (2016), El-Abd, Callahan, and Azano (2019), Klassen et al. (2009), Poulou (2007), Ruff (2019), and Tschannen-

Moran and Barr (2004).

The TSES, formerly known as the Ohio State Teacher Efficacy Scale (OSTES), was put through three different studies to ensure its validity and reliability (Tschannen-Moran & Hoy, 2001a). The first draft of the scale included 52 items and was tested using 224 participants (Tschannen-Moran & Hoy, 2001a). After setting the criterion loadings to > 0.60, 31 items were chosen to keep plus one that was deemed as important by the group (Tschannen-Moran & Hoy, 2001a). In the second study with a different group consisting of 217 in-service and preservice teachers, the items were examined using two- and three-factor analysis and finally using the three-factor analysis, which accounted for 51% of the variance, narrowing the instrument down to 18 items (Tschannen-Moran & Hoy, 2001a). At this point, the researchers tested the validity of the OTSTES by having the participants also respond to previous instruments, resulting in positive relationships in the results of four instruments (Tschannen-Moran & Hoy, 2001a).

Finally, a third study was conducted with added questions to further support classroom management, as the previous studies suggested this was one area the assessment was lacking (Tschannen-Moran & Hoy, 2001a). This third study included 410 preservice and in-service teachers (Tschannen-Moran & Hoy, 2001a). In this study, the instrument identified the three subscales: instruction, management, and engagement. The Cronbach's reliability scores for these are $\alpha = 0.91$ for instruction, $\alpha = 0.90$ for management, and $\alpha = 0.87$ for engagement (Tschannen-Moran & Hoy, 2001a). Tschannen-Moran and Hoy (2001a) examined both the short and long forms for construct validity by "assessing the correlation of this new measure and other existing measures of teacher efficacy" (p. 801) and found both to be valid instruments.

Klassen et al. (2009) tested the validity of the TSES in five different locations: United States, Korea, Singapore, Canada, and Cyprus by "examining measurement invariance of the

TSES and exploring the relationship between TSE [teacher self-efficacy] and job satisfaction" p. 69), confirming the importance of high teacher self-efficacy across the world. Poulou (2007) used the TSES to explore teacher self-efficacy in student teachers. This study examined how student teachers felt about their own self-efficacy and its development (Poulou, 2007). In using the instrument, the researcher adjusted the responses from a nine-point Likert-type scale to a five-point and determined the results were not as reliable, and that the nine-point Likert-type scale must be used (Poulou, 2007).

Another study was conducted by Chang and Engelhard (2016) that examined the psychometric quality of the TSES, studying years of teaching and emotional exhaustion and its relation to the TSES. This study did not show a significant difference in relation to years of teaching, but it did show a relationship between levels of self-efficacy and emotional exhaustion (Chang & Engelhard, 2016). Another study was conducted by Tsigilis et al. (2007) to examine the usefulness of the TSES with teachers in Greece who teach an innovative program called the Olympic Education Program. This study concluded that the TSES can be used in other countries and with teachers of different programs, but further testing should be conducted for more concrete findings (Tsigilis et al., 2007).

The TSES long form includes 24 questions with three different efficacy factors: student engagement, instructional strategies, and classroom management (Tschannen-Moran & Hoy, 2001b.). Directions for scoring the TSES require the researcher to determine the sum of all the responses and then calculate the overall mean score (Tschannen-Moran & Hoy, 2001b). The responses for the questions are answered through a nine-point expanded Likert-type scale with no reverse questions. The responses can be as follows: 1 = Nothing, 2/3 = Very Little, 4/5 = Some Influence, 6/7 = Quite a Lot, and 8/9 = A Great Deal (Tschannen-Moran & Hoy, 2001a).

The scores range from 24, which is the lowest, to 216, which would be the highest level of teacher self-efficacy on the TSES scale.

The instrument was transcribed into an online survey tool, Qualtrics, and was emailed to participants along with the Institutional Review Board (IRB) permissions and an explanation of the study. Librarians that chose to participate filled out the survey anywhere they chose and should have taken approximately 15 minutes to complete. Prior to completing the TSES, general demographic information was collected; however, no personal identifying information was recorded. The researcher scored the TSES instrument according to the directions provided by Tschannen-Moran and Hoy (2001b) by having the online survey tool calculate the sum for each subscale, downloading the data to an Excel spreadsheet, and setting the spreadsheet to calculate the overall mean.

The long form version of the TSES, the version of the instrument that was used in the study, has 24 questions. These questions are answered with a nine-point expanded Likert scale ranging from “none at all” to “a great deal.” This assessment works well with the school library profession, as school librarians are teachers, too. In Virginia, school librarians hold their initial teaching certificate with a Library Media Pre-K-12 add-on endorsement (Library Media Prek-12, 2018). The TSES instrument asks teachers about their feelings on how they impact student achievement, their abilities using varying instructional strategies, and their classroom management skills. The Cronbach’s reliability scores for these subscales are $\alpha = 0.91$ for instruction, $\alpha = 0.90$ for management, and $\alpha = 0.87$ for engagement (Tschannen-Moran & Hoy, 2001a). This study did not be utilize the subscales; it focused solely on the overall teacher sense of self-efficacy. The instrument was used with permission granted by Dr. Tschannen-Moran (see Appendix C).

Virginia Standards of Learning Reading Assessments

The Virginia Standards of Learning (SOL) Reading assessments was the second instrument used. The purpose of the SOL is to determine if students are meeting expectations as determined by the SOLs (VDOE, n.d.-a). The Virginia Department of Education (VDOE) realized there was a need for regular assessment of the Standards of Learning that were created in 1995 (VDOE, n.d.-a). One year later, the VDOE began to work on the assessments which were field tested in 1997, and then in 1998, the first yearly assessments were administered to students across the state (VDOE, n.d.-a).

The study conducted by Tschannen-Moran and Barr (2004) examined the relationship between collective teacher efficacy and eighth grade students' achievement on the SOLs in English. According to the Virginia Department of Education (VDOE) Division of Assessment and Reporting in 1999, as cited by Tschannen-Moran and Hoy (2004), "The SOL test developers used Kuder-Richardson Formula #20 as the statistical measure of test reliability for all SOL tests except the English writing component, for which person separation reliability was used" (p. 200). Beyond this study, very little published research could be found that includes the SOLs as an instrument.

According to the VDOE (n.d.-a), these assessments have been reviewed extensively and have undergone field testing to be sure they are appropriate for the grade level for which they are designed. VDOE (n.d.-a) stated that validity has been confirmed by extensive review by a Content Review Committee. The assessments consist of passages and questions, English related questions such as synonyms, antonyms, and root words, to name a few (VDOE, 2015a). Students in schools across Virginia are expected to take the SOL tests at the end of the school year beginning in third grade and continuing through 12th grade using an online testing format

(VDOE, n.d.-b).

The reading assessments consist of 40 questions that measure the content knowledge of the students (VDOE, n.d.-b). The tests are "graded using a scale of 0-600 with 400 representing the minimum level of acceptable proficiency and 500 representing advanced proficiency" (VDOE, n.d.-b, para. 2). Students receive a raw score in which the number of points is earned for the questions that were answered correctly, not counting the number of incorrect responses (VDOE, 2015b). Raw scores are then converted into a scale score, which allows for scores to be compared to scores from previous years and versions of the test (VDOE, 2015b).

The reading assessments' overall school pass rates was the data utilized for this study. The SOL school pass rates were collected from the VDOE's School Quality Profile website (VDOE, n.d.-c). These pass rates were calculated using only the students' scores that pass the test or made significant improvement from previous years' assessments (VDOE, n.d.-c). The SOL tests are administered each year in May following the guidelines set forth by the Virginia Department of Education. Each student takes as much time as needed to complete each assessment and scores are calculated electronically through the VDOE (n.d.-a).

To ensure reliability, since this is a large-scale assessment and students take the test once a year, internal consistency reliability was calculated using Cronbach's coefficient alpha statistic (VDOE, 2015b) with high reliability each time it is checked. Cronbach's alpha ranges from 0.0 to 1.0 and when calculated, the SOLs come in at the higher range (VDOE, 2015b). The VDOE (2014) reported the Cronbach' alpha for the third-grade reading test at $\alpha = .87$ and $\alpha = .88$ for core one and two respectively. Fourth grade was also $\alpha = .87$ and $\alpha = .88$, and fifth-grade was $\alpha = .85$ and $\alpha = .89$. Core one is comprised of test questions that are released to the public annually, while core two questions are not and can be reused the following year (VDOE, 2014).

The SOL data that were utilized for this study were the reading assessment pass rates for the schools. The school pass rates for reading were collected from the VDOE's School Quality Profile website (VDOE, n.d.-c). These pass rates were calculated using only the students' scores that passed the test or made significant improvement from previous years' assessments (VDOE, n.d.-c). This was collected from the VDOE's School Quality Profile website (VDOE, n.d.-c). The rate used to determine this profile number included not only students who passed the assessment, but also those that had significant improvement from previous assessments (VDOE, n.d.-c). Since this information was publicly accessible on the Internet, permission was not needed to use this data.

Procedures

The VAASL Executive Board approved the use of the contact list to send out the survey to its members. Institutional Review Board (IRB) application process was the next step. See Appendix D for IRB Approval. Following successful IRB approval, the VAASL Executive Director was contacted with the email that needed to be sent to the members, as she was well known to the members and regarded with high status (Gall et al., 2007). This email, sent in mid-March of 2020, included a description of the study, the confidentiality measures that were taken, withdrawal information, and ethical considerations. It was explained that by clicking the link to begin the assessment, the librarians were consenting to participate in the study. The consent form can be found in Appendix E. This email included a link to the instrument that also collected demographic information needed for the study. The demographics collected are located in Appendix F.

The participants were offered an opportunity to enter their email address if they wished to enter to win one of four $25 Amazon gift cards to increase the rate of volunteers (Gall et al.,

2007). Once the timeline for the study was in place, a deadline of two weeks following the initial email was set for the assessment to be completed, or until enough responses have been returned. A follow-up email was sent out a week before the due date, with a reminder of participation and of the possibility of winning one of the four incentive gift cards. Two more follow-up emails were sent, one the day prior to the due date and one on that final date. The demographics and TSES were collected through Qualtrics and the drawing entries through Microsoft Forms, which were password protected. At the conclusion of the collection period, the data was then downloaded into an Excel spreadsheet for importing into SPSS and kept on a password-protected hard drive. The data collected from the state is publicly accessible, so this information did not need to be password protected.

Data Analysis

The study used two different analyses to explore if there was a difference in self-efficacy among elementary, middle, and high school librarians and to see if self-efficacy can predict reading scores for elementary schools.

Analysis of Research Question 1: One-Way ANOVA

This question examined the difference in self-efficacy among school librarians in elementary, middle, and high schools. A one-way ANOVA was used to examine the difference in self-efficacy levels as measured by the TSES, the dependent variable, between the three groups of the school librarians, the independent variable. A one-way ANOVA was appropriate for this study because it "assesses whether the means of multiple independent groups are statistically different from each other" (Rovai et al., 2013, p. 296).

A box and whisker plot was used to check for extreme outliers in each group (Gall et al., 2007) and a Shapiro-Wilk test was run to test for normality, since $n < 50$ (Warner, 2013). The

assumption of equal variance was tested with Levene's Test of Equality of Error Variance (Warner, 2013).

Analysis of Research Question 2: Bivariate Linear Regression

RQ2 used a correlational design to examine a predictive relationship (Rovai et al., 2013) between the self-efficacy levels of elementary school librarians and SOL Reading Assessment pass rates for the schools at which they work. A bivariate linear regression was conducted for the self-efficacy levels of elementary school librarians as a predictor variable and the SOL Reading Assessment overall school percentage as the criterion variable (Gall et al., 2007). Data was screened to ensure there were no missing data points. Assumption testing included:

- Assumption of Bivariate Outliers: Use a scatter plot between the predictor variables (x) and criterion variable (y). Look for extreme bivariate outliers.
- Assumption of Linearity: Use a scatter plot between the predictor variables (x) and criterion variable (y).
- Assumption of Bivariate Normal Distribution: Use a scatter plot between the predictor variables (x) and criterion variable (y). Look for the classic "cigar shape."

All assumptions can be tested using the same scatter plot between the predictor variable (placed on the x-axis) and the criterion variable (placed on the y-axis).

CHAPTER FOUR: FINDINGS

Overview

This chapter presents the results of the study. The purposes of this study were to quantitatively a) test the difference in self-efficacy among elementary, middle, and high school librarians and b) determine if school librarians' self-efficacy levels can predict reading scores on the Virginia SOL Reading assessments. This study compared the difference in teacher self-efficacy among elementary, middle, and high school librarians. The study also attempted to determine if schools' overall average pass rates on the Virginia SOL reading assessment could be predicted by elementary school librarians' teacher self-efficacy levels. The teacher self-efficacy levels were assessed using the TSES.

Research Questions

The research questions for this study were as follows.

RQ1: Is there a difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high schools?

RQ2: Can teacher self-efficacy levels of elementary school librarians predict school overall average pass rates on the Virginia Standards of Learning Reading assessment?

Null Hypotheses

The null hypotheses for this study are as follows.

$H_0$1: There is no statistically significant difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high school librarians.

$H_0$2: There is no statistically significant predicative relationship between teacher self-efficacy levels of elementary school librarians and school overall average pass rates on the Virginia Standards of Learning Reading assessment.

Descriptive Statistics for RQ 1

Descriptive statistics of mean and standard deviation for RQ1 and the TSES and school librarians by level can be found in Table 1. Descriptive statistics for RQ2 and the TSES scores of elementary school librarians and the schools overall pass rates on the Reading SOL assessments can be found in Table 2.

Table 1

Descriptive Statistics for TSES Scores and School Level - RQ 1

School Level	Mean	*SD*	*N*
Elementary	166.240	22.334	46
Middle	162.740	19.686	46
High	165.410	22.008	46
Total	164.800	21.271	138

Note. Dependent Variable: Total TSES Score.

Table 2

Descriptive Statistics for TSES and School SOL Reading Pass Rate - RQ2

	Mean	*SD*	*N*
TSES Score	165.74	23.094	112
Pass Rate	82.170	92.990	112

Results for Null Hypothesis One

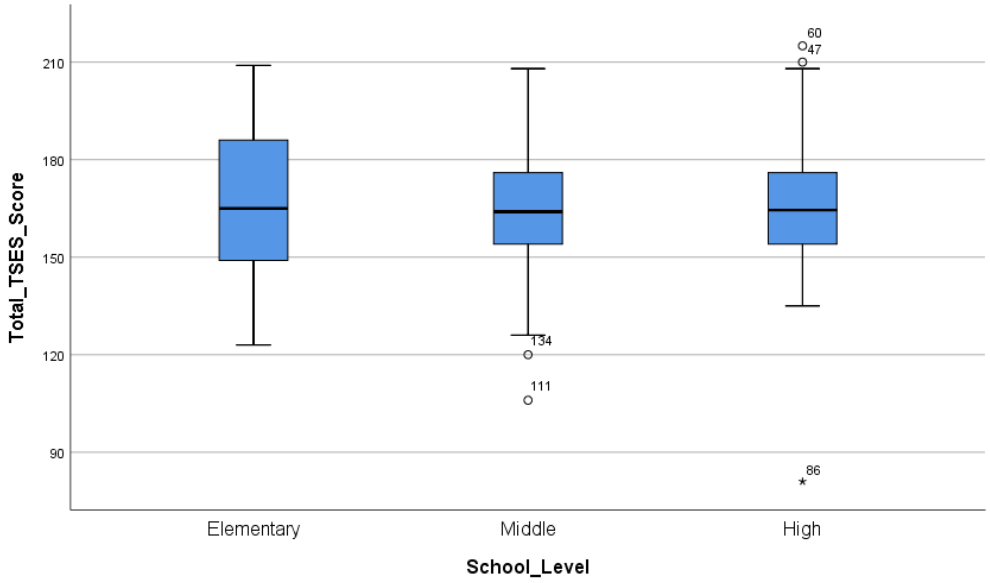
Data Screening

Prior to any analysis, all data were screened to ensure both pieces of information needed for the study was submitted for each participant and the totals for the TSES were calculated. Total pass rates for the elementary schools were collected and coded for anonymity. A total of *N* = 234 VAASL members responded to the survey. Of those, 17 were immediately excluded as they did not fit in the criteria for the school level. For example, one respondent was a college

professor, another was central office staff, one served students K-12 and two did not include school level at all. For RQ1, similar numbers were needed for the ANOVA, so the researcher took the lowest number, which was middle school librarians (n = 46) and randomly selected 46 participants from elementary and high school librarians. This resulted in the N = 138 for RQ1. A box and whiskers plot was used to check for extreme outliers and there were none (see Figure 1.) All data were retained.

Figure 1

Box and Whiskers Plot for TSES Scores and School Level



Assumption Tests for RQ 1

An analysis of variance (ANOVA) was used to test null hypothesis one. The ANOVA required that the assumptions of normality and homogeneity of variance are met. Normality was examined using a Shapiro-Wilk test. Shapiro-Wilk was used because the sample size was less than 50. A violation of normality was found for the High School group. However, the ANOVA is a robust test against this assumption (Warner, 2013). The tests for normality can be found in Table 3.

Table 3

Shapiro-Wilk Assumption of Normality Test for TSES and School Level

School Level	Statistic	*df*	Sig.
Elementary	.972	46	.329
Middle	.959	46	.100
High	.919	46	.004

The assumption of homogeneity of variance was examined using the Levene's test. No violation was found where $p = .212$. The assumption of homogeneity of variance was met, as seen in Table 4.

Table 4

Levene's Test of Equality of Error Variances for TSES and School Level

		Levene Statistic	*df*1	*df*2	Sig.
Total TSES Score	Based on Mean	1.570	2	135	.212

Null Hypothesis One

An ANOVA was used to test the null hypothesis that there is no statistically significant difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high school. The null hypothesis was not rejected at a 95% confidence level. The ANOVA results were $F(2, 135) = .337$, $p = .715$, $\eta_p^2 = .005$ (see Table 5). The effect size was very small. Because the researcher failed to reject the null hypothesis, post hoc analysis was not conducted.

As seen in Table 5, the results of the ANOVA failed to reject the null hypothesis or uncover a significant difference between groups. The significance value of .715 shows no significant difference, therefore, no post hoc tests were run.

Table 5

ANOVA Tests of Between-Subjects Effects for TSES and School Level

Source	Type III Sum of Squares	*df*	Mean Square	*F*	Sig.	Partial Eta Squared
Corrected Model	307.928	2	153.964	.337	.715	.005
Intercept	3747815.681	1	3747815.681	8202.852	.000	.984
School Level	307.928	2	153.964	.337	.715	.005
Error	61680.391	135	456.892			
Total	3809804.000	138				
Corrected Total	61988.319	137				

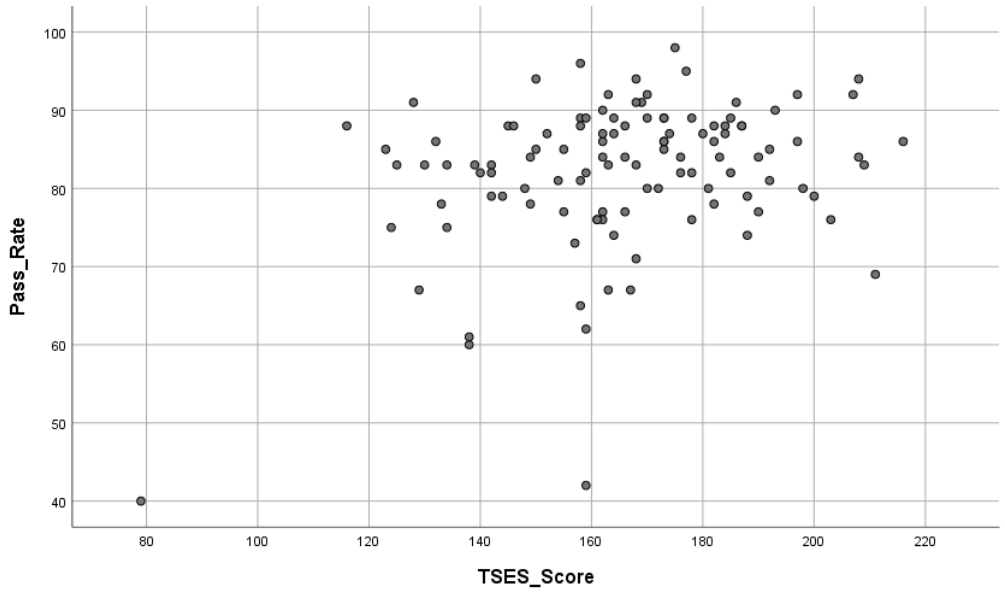
Results Null Hypothesis Two

Data Screening and Assumption Tests

The data for all 111 elementary school librarians were checked for missing values. Incomplete data sets were excluded. A scatterplot was produced to test assumptions of bivariate outliers, linearity, and bivariate normal distribution. All assumptions were tenable as seen in Figure 2.

Figure 2

Scatterplot for Bivariate Regression for TSES and VA SOL Reading Pass Rates



Bivariate Linear Regression Results

A bivariate linear regression was conducted to test Null Hypothesis Two: There is no statistically significant predicative relationship between teacher self-efficacy levels of elementary school librarians and school overall average pass rates on the Virginia Standards of Learning Reading assessment. The regression equation for predicting overall pass rate is $Y = 0.761X_{\text{pass rate}} + 103.21$. The coefficient can be found in Table 6. The 95% confidence interval of this slope was 66.272 to 140.148 (see Table 6) and 9.4% of the variance of pass rate indicates a very low relationship in predicting scores (see Table 7). The researcher rejected the null hypothesis. TSES scores (M = 165.74, SD= 23.094) did predict elementary schools' pass rate (M = 82.17, SD= 9.299), $F(1, 110) = 11.398$, $p = .001$ (see Table 8) with R^2 of .094.

Table 6

Coefficients for TSES and VA SOL Pass Rates

Model		Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
		B	Std. Error	Beta	*t*	Sig.	Lower Bound	Upper Bound
1	Constant	103.210	18.639		5.537	.000	66.272	149.148
	Pass Rate	.761	.225	.306	5.376	.001	.314	1.208

Table 7

Model Summary for TSES and VA SOL Pass Rates

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.306	.094	.086	22.083

Table 8

ANOVA for TSES and VA SOL Pass Rates

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5558.292	1	5558.292	11.398	.001
	Residual	53641.199	110	487.647		
	Total	59199.491	111			

CHAPTER FIVE: CONCLUSIONS

Overview

There is a gap in the literature on school librarians' teacher self-efficacy and how that differs based on the school level in which they work as well as if elementary school librarians' teaching self-efficacy can be a predictor for reading scores. This study examined both and attempted to add to the body of literature that can support school library preparatory programs and school library conferences as well as inform and remind school districts of the importance of school librarians. This chapter discusses the findings, implications, and limitations of this study as well as suggestions for further research on the topic.

Discussion

The purposes of this study were to quantitatively a) test the difference in self-efficacy among elementary, middle, and high school librarians and b) determine if school librarians' self-efficacy levels can predict reading scores on the Virginia SOLs Reading assessments. Teacher self-efficacy is the feeling that one can make a difference, academically, in students' educational careers. School librarians that were on the VAASL contact list were contacted, and a convenience sample was drawn (N = 213) from the qualifying respondents. The study asked two questions: RQ1: Is there a difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high schools? and RQ2: Can teacher self-efficacy levels of elementary school librarians predict school overall average pass rates on the Virginia Standards of Learning Reading assessment? The results are discussed below.

Theoretical Framework

Rotter's (1966) theory of the locus of control is based on the idea that the environment and the experiences that people have allow individuals to develop control, or how they react to

situations. Zee and Koomen (2016) furthered this explanation by stating that when an action or behavior is rewarded, the locus of control is further developed. Zuber and Altrichter (2018) discussed Rotter's theory as well and stated that the idea that one's locus of control is influenced by how many, how often, how long, and how intense those experiences are and that often teachers feel as if they do not have control due to the rapid changes in education. This may apply to the current study. School librarians are always changing, adapting, learning new technology, and utilizing national library standards as well as state standards (both of which undergo changes), and every day in the library is different. This may be one reason that the average TSES score is not higher, as the study indicated that the average score was 165 out of a possible 216. Perhaps this average would be higher if there was more time to gain that locus of control.

Bandura's (2001) stated in social cognitive theory that humans have the agency and the ability to control how they act and react. Bandura stated that people can view a task or situation, create change, decide how to react, and make things happen (Bandura, 2001). Warren and Hale (2016) related Bandura's theory to self-efficacy due to the responses that people have: behavioral, emotional, and cognitive. Bandura (2001) believed that reflection on how a situation was handled raises or lowers self-efficacy. School librarians are often trained in their programs to be reflective; however, this study did not indicate that there is a difference based on school level, so one may assume that reflective practice and how situations are handled is approximately the same for school librarians of all levels.

Bandura (2012) stated that self-efficacy is developed through mastery experiences, social modeling, social persuasion, and one's social and emotional state. Teacher self-efficacy has been related to this same theory. Shoulders and Krei (2015) believed that teacher self-efficacy

improves as teachers have success in classroom management, years of experience, and student success. Klassen and Tze (2014) stated that teacher self-efficacy improves the persistence teachers have when working with challenging students, how excited they are about their profession, their commitment, and how well they manage the classroom. The researcher of the current study set out to determine if these areas differed based on school level and if the self-efficacy level of school librarians impacted reading scores. This study failed to reject Null Hypothesis One and rejected Null Hypothesis Two.

Null Hypotheses One

Null Hypotheses One states: There is no statistically significant difference in the levels of teacher self-efficacy among school librarians in elementary, middle, and high school librarians. The researcher compared the data from the ANOVA and determined that the results failed to reject the null hypothesis. The results of this study indicated that the teacher self-efficacy levels do not vary greatly among librarians in elementary, middle, and high schools.

Perera et al. (2019) conducted a study to examine the different levels of teacher self-efficacy based on lower and upper grade teachers. That study was based on the theory that teacher self-efficacy has different domains: "subject field knowledge, pedagogical competencies, assessment practices, classroom management practices, and individualized learning" (p. 189). The results of that study indicated that regardless of grade level, those with high teacher-efficacy had better classroom management skills, teacher collaborations, and student engagement. The current study also indicated that the teacher self-efficacy levels of school librarians did not vary based on grade levels.

School librarians, regardless of the school level, are in the position to make an impact on all students in the school community, through a variety of means such as teaching research

lessons, reading promotion, making book recommendations, collaborating with teachers, and more (Lo & Chiu, 2015). It is thought that teachers' self-efficacy helps to determine the effort they put into their lessons, the activities they plan, and how they manage their classrooms (Zee et al., 2018). Since school librarians, regardless of the school they work in, all have similar training in these areas and carry out similar duties, it stands to reason that their teacher self-efficacy are similar.

The results of this study contradicted the results of the study conducted by Ryan et al. (2015), which indicated that elementary school teachers have higher self-efficacy levels than middle school teachers. However, the study by Ryan et al. used classroom teachers as the focus, and this study solely focused on school librarians. The current study attempted to begin to address the gaps in the literature on the difference in self-efficacy between elementary, middle, and high school librarians, as there is little to no research that focuses on these groups of educators. The results of this study supported the researcher's theory—that the school level in which the librarians work does not reflect their level of teacher self-efficacy.

Null Hypotheses Two

Null Hypotheses Two states: There is no statistically significant predicative relationship between teacher self-efficacy levels of elementary school librarians and school overall average pass rates on the Virginia Standards of Learning Reading assessment. The results of this study rejected this null hypothesis. This supports the previous studies that have been conducted on the topic. There are numerous studies that indicate a direct correlation between full-time, fully-certified school librarians and reading scores.

A study by Coker (2015) found that school librarians that are fully certified are more likely to support core content and teach up-to-date library curriculum. It is possible that some of

the respondents to the current study are working under a provisional license and working towards their library certification. That demographic was not collected in this study; however, the results do indicate a positive relationship between school librarians' teacher self-efficacy and reading test scores in Virginia.

Another study that found a positive relationship between student achievement and schools with full time librarians and either a part-time or full-time assistant was conducted by Lance et al. (2014a). It was noted that both male and female students, students from lower income families, and those who belonged to minority groups, all had higher achievement in those schools with school librarians (Lance et al., 2014a). Park and Yau (2014) researched the impact the library program had on both English and Spanish-speaking Hispanic students. Their results indicated that using the library for class purposes, such as for conducting research and finding reading material for class projects, had a positive impact on standardized test scores (Park & Yau, 2014).

Similarly, Small et al. (2010) conducted an extensive study examining how school librarians impact student achievement and motivation. At the conclusion of the three-phase study, it was concluded that the library programs and the librarians positively impacted students' research skills and motivation. Small et al. also noted that positive impacts on reading skills, reading test scores, and reading interests were indicated. The current study corroborated these previous studies.

The researcher expected to see the results mirror those that show compelling evidence towards school librarians having a positive impact on student reading scores, such as the study conducted by Fourie and Loe in 2016, that indicated elementary and middle schools with highly-qualified school librarians have markedly higher reading scores. Farmer (2006) reported that

well-implemented school library programs result in schools with higher reading comprehension and vocabulary.

With the limited research conducted previously on the topic of school librarians and self-efficacy, this study added to the current literature and supported those previous studies and theories. Ash-Argyle and Shoham (2014) stated that school librarians with high self-efficacy are more likely to collaborate with classroom teachers. The current study did not address this, as the TSES does not focus on the exact tasks that school librarians do each day, such as collaboration. This topic is worthy of further inspection.

While this study did indicate that the teacher self-efficacy of elementary school librarians on the VAASL contact list may predict pass rates on standardized reading assessments, one may wonder if school librarians, and in turn, their school communities, would benefit from learning more about self-efficacy. Clark and Newberry (2019) felt that preservice programs that had a focus on self-efficacy may prevent a decrease in self-efficacy levels as school librarians move through their career.

Impactful programs that allow for mastery of meaningful experiences, vicarious experiences, and social persuasion will have school librarians graduating with higher teacher self-efficacy (Pfitzner-Eden, 2016; Wang et al., 2017). Kimmel et al. (2016) conducted a study that allowed for authentic and meaningful experiences in a library setting and through leadership activities, such as planning and executing a community service project. Kimmel et al. felt that this model could be used to graduate students who are ready "to become agents of radical change" (p. 185). Librarian preparation programs such as this may be worthy of further study to continue to fill the gaps in the literature on school librarians' teacher self-efficacy and predicting reading scores.

Implications

While this study only focused on school librarians in Virginia that were on the VAASL contact list, the results are still important and worthy of consideration. While some may feel that school librarians in different school settings work harder or have higher teacher self-efficacy due to fixed scheduling, more students, or the need to reach out for collaborations, the results indicate that the teacher self-efficacy levels do not differ in relation to the school level in which they work. This result directly addresses a gap in the literature. There is very little research that explores this topic currently. The results of this study can be used to inform school librarians, or other stakeholders, that school librarians' teacher self-efficacy is not related to the school level in which they work.

The second part of this study, relating to school librarians' teacher self-efficacy and reading scores, does support much of the current literature on school librarians and their impact on student achievement. The results support previous research; however there could be further research on the topic. School librarians are more than just "shushers," curators, and storytellers. They are teachers, collaborators, and school leaders; therefore, the impact they make is tremendous. School librarians should have confidence, or high teacher self-efficacy, and know that they can and do make a difference. It is possible that school librarians simply do not realize the impact that they can make on student achievement. This would provide good reason to offer professional development that reminds school librarians of the impact they can have on student achievement and to continue to have that confidence in what they do. This could be done by providing professional development for school librarians to improve and sustain high teacher self-efficacy and would be an asset to all stakeholders. These sessions could take place during conferences and in library preparatory programs.

Limitations

There were no internal threats to validity of this study because the participants were kept anonymous throughout the study. There were no risks involved by participating in the study that were any greater than the participants may encounter in their daily lives. The researcher did not include any unnecessary procedures to minimize risks. There was no identifying information that was collected, and the researcher and dissertation chair were the only ones with access to the data collected. All data was kept on a password-protected hard drive, and all data was stripped of any identifying information at collection. The assessments were conducted using Qualtrics and was sent to participants through a recruiting email through the executive director of VAASL, allowing no direct contact from the researcher and the participants. The findings of this study cannot be generalized beyond this population.

The study was conducted using correlational and causal-comparative designs, each having its own limitations. Research Question One used a causal-comparative design, which limits the research to naturally occurring variations in the responses (Gall et al., 2007). As a result, the inferences the research makes based on the data are tentative and are strictly left to interpretation (Gall et al., 2007). A limitation of causal-comparative design is the inability to have a truly random sample. There is no opportunity to randomly choose participants for the experimental and control groups because the events or actions have already occurred.

The second research question used a correlational design. Gall et al. (2007) stated that this design assumes that the relationship is linear when it may be nonlinear, which is evident after the scattergram is inspected. While correlational research can suggest that there is a relationship between two variables, it cannot prove that one variable causes a change in another variable. In other words, correlation does not mean causation.

There were other factors that contributed to limitations in this study. The recruitment email was sent to only 1,200 members of VAASL. School librarians in Virginia who are not active members of the professional organization were not recruited, which narrowed down the recruitment pool. While a minimum of $N = 129$ total, with 43 each of elementary, middle, and high school librarians were needed for RQ1, 138 responded, with 46 in each category eligible. For RQ2, $N = 106$ elementary school librarians were needed and 111 met the criteria to serve as participants. These numbers may have been improved had the researcher used a different method of recruitment, such as expanding to the national level rather than staying within the mailing list of VAASL.

Another factor that may have caused issue with this study is that the TSES was designed for classroom teachers and not school librarians. While school librarians in Virginia are certified teachers, the job is vastly different. One high school librarian responded to the request to participate with the note that he did not want to participate due to the questions and responses not applying to his position at all.

At the time of the study, a worldwide pandemic occurred and schools in Virginia were closed suddenly. School librarians were scrambling to help their school communities make lessons, connections, and ways to communicate with their students. This may have had an impact on the results and number of respondents. The school librarians may have felt at a loss of how to have an impact and not answered as they typically would have had schools been in session as normal. They also may not have been checking their email or had time to respond due to the overwhelming need for distance learning support.

Recommendations for Future Research

1. Expand the participant pool to the entire United States to give a broader view of school librarians across the nation and their teacher self-efficacy levels.
2. Create a survey that is based more on the tasks and impacts that school librarians can have and not use the survey designed solely towards classroom teacher self-efficacy.
3. Conducting a qualitative study may be useful to give a more detailed account of the impact school librarians feel they make on student achievement.
4. Add to the demographics collected in the survey, such as years of experience and if the participants are fully certified school librarians, in order to acquire more robust data.
5. Expand research question two to middle and high school librarians, as well.

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APPENDIX A

Teacher Sense of Efficacy Scale

Teacher Beliefs - TSES

This questionnaire is designed to help us gain a better understanding of the kinds of things that create challenges for teachers. Your answers are confidential.

Directions: Please indicate your opinion about each of the questions below by marking any one of the nine responses in the columns on the right side, ranging from (1) "None at all" to (9) "A Great Deal" as each represents a degree on the continuum.

Please respond to each of the questions by considering the combination of your current ability, resources, and opportunity to do each of the following in your present position.

	None at all		Very Little		Some Degree		Quite A Bit		A Great Deal
1. How much can you do to get through to the most difficult students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
2. How much can you do to help your students think critically?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
3. How much can you do to control disruptive behavior in the classroom?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
4. How much can you do to motivate students who show low interest in school work?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
5. To what extent can you make your expectations clear about student behavior?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
6. How much can you do to get students to believe they can do well in school work?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
7. How well can you respond to difficult questions from your students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
8. How well can you establish routines to keep activities running smoothly?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
9. How much can you do to help your students value learning?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
10. How much can you gauge student comprehension of what you have taught?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
11. To what extent can you craft good questions for your students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
12. How much can you do to foster student creativity?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
13. How much can you do to get children to follow classroom rules?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
14. How much can you do to improve the understanding of a student who is failing?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
15. How much can you do to calm a student who is disruptive or noisy?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
16. How well can you establish a classroom management system with each group of students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
17. How much can you do to adjust your lessons to the proper level for individual students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
18. How much can you use a variety of assessment strategies?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
19. How well can you keep a few problem students form ruining an entire lesson?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
20. To what extent can you provide an alternative explanation or example when students are confused?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
21. How well can you respond to defiant students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
22. How much can you assist families in helping their children do well in school?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
23. How well can you implement alternative strategies in your classroom?	①	②	③	④	⑤	⑥	⑦	⑧	⑨
24. How well can you provide appropriate challenges for very capable students?	①	②	③	④	⑤	⑥	⑦	⑧	⑨

APPENDIX B

Permission to Publish Instrument in Dissertation

[External] Re: Permission Letter

Frances Furlong <fcfurlong@email.wm.edu>
Sat 11/2/2019 9:37 AM
To: Thompson, Jessica Lynn <jlthompson@liberty.edu>
Cc: Frances Furlong <fcfurlong@email.wm.edu>

2 attachments (1 MB)
Thompson_Jessica_2019_Nov_2_TSES.pdf; MTMGuest Instructions_2019_v5.pdf;

[EXTERNAL EMAIL: Do not click any links or open attachments unless you know the sender and trust the content.]

Jessica,

I have attached a letter of permission from Dr. Tschannen-Moran, as well as directions for accessing the materials on her password-protected website.

You may include the instrument in the appendix of your dissertation.

Please let me know if you have any further questions.

Regards,

Frances

Frances C. Furlong
Ph.D Student
William & Mary School of Education

APPENDIX C

Permission to Use Teacher Sense of Efficacy Scale

William & Mary
School of Education

MEGAN TSCHANNEN-MORAN, PHD
PROFESSOR OF EDUCATIONAL LEADERSHIP

March 21, 2019

Jessica,

You have my permission to use the Teacher Sense of Efficacy Scale (formerly called the Ohio State Teacher Sense of Efficacy Scale), which I developed with Anita Woolfolk Hoy, in your research. You can find a copy of the measure and scoring directions on my web site at http://wmpeople.wm.edu/site/page/mxtsch . Please use the following as the proper citation:

> Tschannen-Moran, M & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education, 17*, 783-805.

I will also attach directions you can follow to access my password protected web site, where you can find the supporting references for this measure as well as other articles I have written on this and related topics.

All the best,

Megan Tschannen-Moran
William & Mary School of Education

APPENDIX D

IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

March 4, 2020

Jessica Thompson
Michelle Barthlow

Re: IRB Exemption - IRB-FY19-20-17 The Differences Among School Librarians' Self-Efficacy Levels and the Relationship Between Self-Efficacy of School Librarians and Reading Scores

Dear Jessica Thompson, Michelle Barthlow:

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:
101(b):

Category 2.(iii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects can readily be ascertained, directly or through identifiers linked to the subjects, and an IRB conducts a limited IRB review to make the determination required by §46.111(a)(7).

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

Your stamped consent form can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. This form should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document should be made available without alteration.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office

APPENDIX E

CONSENT FORM

THE RELATIONSHIP BETWEEN SELF-EFFICACY OF SCHOOL LIBRARIANS AND STUDENT READING SCORES

Jessica Thompson

Liberty University

School of Education

You are invited to be in a research study on school librarians' feeling of self-efficacy. The study is quantitative in nature and will consist of a self-efficacy assessment. You were selected as a possible participant because you are a school librarian in the state of Virginia, where the study will be conducted. Please read this form and ask any questions you may have before agreeing to be in the study.

Jessica Thompson, a doctoral candidate in the School of Education at Liberty University, is conducting this study.

Background Information: The purpose of this study is to examine school librarians' self-efficacy levels and if those levels differ among elementary, middle and high school librarians and if elementary school librarian's self-efficacy levels can be a predictor of schools reading scores. The results may help school librarian preparatory programs understand what needs to be taught about self-efficacy, to provide sessions on self-efficacy at school library conferences, and to remind schools of the impact school librarians can have on student achievement.

Procedures: If you agree to be in this study, I would ask you to do the following things:

1. Fill out a short questionnaire on your demographics that collects no personal data. This should take about 5 minutes.

2. Complete a self-efficacy assessment. This assessment should take about 15 minutes.

Risks: The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life. Pseudonyms for the schools you work in will be used in order to keep your identity anonymous.

Benefits: Participants should not expect to receive a direct benefit from taking part in this study.

Compensation: Participants will not be compensated for participating in this study.

Confidentiality: The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participants' schools will be assigned a pseudonym.
- Data will be stored on a password locked computer and may be used in future presentations. After three years, all electronic records will be deleted

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University or your school division. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

How to Withdraw from the Study: If you choose to withdraw from the study, please contact the researcher at the email address/phone number included in the next paragraph. Should you choose to withdraw, data collected from you, will be destroyed immediately and will not be included in this study.

Contacts and Questions: The researcher conducting this study is Jessica Thompson. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact. her at Jessica.thompson@liberty.edu.

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu.

Please notify the researcher if you would like a copy of this information for your records.

Statement of Consent: I have read and understood the above information. I have asked questions and have received answers. I consent to participate in the study.

_____

Signature of Participant Date

_____

Signature of Investigator Date

APPENDIX F

Demographics Questionnaire

1. Gender: Male Female Rather not say
2. Were you a school librarian in the 2018-2019 school year?
    a. Yes
    b. No
3. What best describes the school you were in during the 2018-2019 school year?
    a. Elementary (Grades K – 5)
    b. Middle (Grades 6-8)
    c. High (Grades 9-12)
    d. Other_____
4. What elementary school did you work in during the 2018-2019 school year? (Elementary only) (Will be kept confidential)
    a. _____
5. In which district is that elementary school? (Elementary only)
    a. _____

This was a separate link following the TSES:

If you would like to be entered into a random drawing for one of four $25 Amazon gift cards, please enter your email address. (This will be kept confidential and will not be tied to your responses above in any way.) _____