AN EXAMINATION OF ELEMENTARY SCHOOL LIBRARIANS' SELF-EFFICACY BELIEFS IN SERVING STUDENTS WITH DISABILITIES

By

Jessica Jordan

A DISSERTATION PRESENTED TO THE GRADUATE SCHOOL AT SLIPPERY ROCK UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION

SLIPPERY ROCK UNIVERISTY

2021

Slippery Rock University

Department of Special Education

A Dissertation written by
Jessica D. Jordan
Bachelor of Science in Education, Indiana University of Pennsylvania, 2000
Master of Science in Library Science, Clarion University, 2004
Doctorate of Education, Slippery Rock University, 2021

Approved by

Michelle L Amodei, D. Ed, Associate Professor
Dissertation Chair
Dr. Michelle Amodei

_____, Associate Professor
Dissertation Committee Member
Dr. Eric Bieniek

Deborah Wells, Professor
Dissertation Committee Member
Dr. Deborah Wells

Accepted by

A. Keith Dils, Dean of the College of Education, Slippery Rock University
Dr. A. Keith Dils

ABSTRACT

The purpose of this study was to investigate the self-efficacy beliefs of elementary school librarians in meeting the needs of students with disabilities in the library classroom. Quantitative methods were used through the administration of a survey instrument previously developed and implemented in general classrooms (Dawson & Scott, 2013). The instrument evaluated five factors potentially impacting self-efficacy: (a) instruction, (b) professionalism, (c) teacher support, (d) classroom management, and (e) related duties.

The theoretical framework outlined for the study was based upon Bandura (1977). As the work of Bandura focuses on perceptions, the survey instrument asked participants to rank their perceived abilities on 14 initial constructs and the five factors listed above. Participants (n=35) were recruited through a listserv designed for school librarians (K-12) within Pennsylvania.

Due to the small sample size (n=35), Partial Least Squares-Structural Equation Modeling (PLS-SEM) was utilized for data analysis. (Hair et al., 2017). Findings showed each of the five manifest variables captured in the survey instrument impacted elementary librarians' perceptions yet the analysis of these factors as one body, the Higher Order Construct (HOC) was statistically significant. In using the PATH Model function of PLS-SEM, analysis showed that instruction, professionalism, and classroom management were statistically significant independently but HOC demonstrated greater significance.

The study found that 50% of participants had a mean score of 4 or higher on the Likert scale used within the survey, indicating an overall average of participants having "some ability" or higher demonstrated lower levels of self-efficacy in meeting the needs of students with disabilities.

Keywords: self-efficacy, elementary school librarians, PLS-SEM

DEDICATION

This dissertation is dedicated to my parents, Richard and Mary Schill, my husband Bill, and my stepdaughter Maeve.

ACKNOWLEDGEMENTS

The dissertation process can be a lonely road to travel. For me, this was not the case. I was fortunate to have support from many angles and from a wide-range of caring souls.

I would like to first thank parents. It was they who first taught me the meaning of hard-work and dedication. I understand I was not an easy child to raise due my strong will, and what I like to refer as leadership skills, but instead of being reprimanded I was encouraged to give my all and for that, I am forever grateful. I love you both more than can be stated.

Additionally, I would like acknowledge my sounding board and my partner in life, my wonderful husband William. As he was completing his own dissertation journey, I watched as he put his nose to the grindstone and pressed on, ensuring that our family was not lost in the process. Your drive was my inspiration – thank you for being you and always being there to listen and provide reassurance. Also, credit must be given to my stepdaughter Maeve. She would often ask questions, encouraging me to always keep pressing forward and she demonstrated complete understanding when time for family was limited. I can only hope that I was able to be a role model for this remarkable young woman.

I would also like to acknowledge my dissertation committee. These three individuals asked tough questions, provided solid feedback, and provided the perfect mix of encouragement to help me succeed. Dr. Michelle Amodei was a true inspiration and served in the role of Major Professor perfectly! She was always my personal cheerleader and I will cherish our bond for life. Dr. Eric Bieniek provided me with an example of educator I strive to be. He was tough and pushed me forward yet let me know that I had his full support and he always showed me that he believed in me. Dr. Debbie Wells was always quick with edits and her marginal notes supported my growth in writing and for that, I will always be appreciative.

Lastly, I would like to thank Dr. Kurt Schimmel. While not a member of my committee, Dr. Schimmel selflessly gave up his time to teach me the innerworkings of PLS-SEM. He was patient and kind – never getting angry when I asked the same question twice or when I didn't understand something he said. He simply restated and ensured understanding. I am grateful for his time and tutelage. You were an amazing asset to me in this process, Papa Bear!

The completed product would not have happened without these amazing individuals. I would like to add one last sincere, heartfelt thank you to everyone involved in assisting me reach this milestone.

TABLE OF CONTENTS

Chapter 1: Introduction

Statement of Problem

In 21st century schools, students identified with a learning disability or qualifying for special education services often find themselves included in the regular classroom. This practice, known as inclusion, has been documented in the literature since the mid-1980s, with both support and opposition at the forefront of discussions (Hammond & Ingalls, 2003). In the 20th century, there was exponential growth in the field of special education as focus on just those students with hearing or vision-related disabilities expanded to a more "heterogeneous group of children with social, intellectual, ethnic, linguistic, and physical differences" (Powell, 2011, p.3). Students identified with learning issues, such as a language barrier or low achievement, were often placed in specialized programs, separate from the traditional classroom setting (Wade, 2000). Dunn (1968) acknowledged that not all students identified in special education needed to be separated from their peers. Dunn (1968) stated that those suffering from moderate to severe disabilities needed special space, yet this was a disservice for high-functioning students, and "a large portion of the so-called special education in its present form is obsolete and unjustifiable from the point of view of the pupils so placed" (p. 6).

In 1975, President Ford signed into law the Education for All Handicapped Children Act (Public Law 94-142), now known as the Individuals with Disabilities Education Act, or IDEA (US Department of Education, 2020). Having undergone updates and modifications over the years, IDEA continues to set the standard in which students with disabilities receive their education. An example is a guarantee for students to learn in the Least Restricted Environment (LRE). LRE was established and ensured that students identified with disabilities were directly interacting, engaging, and learning with students not identified with disabilities to the fullest

extent possible (Zimmerman, 2002). In addition to the requirement of providing LRE for students identified for special education services, the right to receive a free and appropriate public education (FAPE) also falls under IDEA.

Inclusion typically results in regular education and special education teachers collaborating to include all learners in the traditional classroom setting, with special educators taking the lead in this process. However, Eccleston (2010) acknowledges that the special educator's role has changed in that a skill required for today's special education teachers is leadership. As special education teachers spend their time working on planning and implementing lessons designed for students with disabilities, they have a deeper understanding of the process and, therefore, often serve as leaders when working with regular classroom teachers. This leadership role is a direct relation to the collaborative process for regular education and special education teachers.

There is an expectation that special educators can provide the necessary insight to help regular education classroom teachers adjust to providing instruction to a wide range of learners (Mulholland and O'Connor, 2016). From the regular education classroom teacher's perspective, there is a need to be prepared and understand that the results of their teaching efforts will not be immediately evident as students with disabilities progress at individual rates (Ruppar, Neeper, & Dalsen, 2016). Based on these changes, the opportunity to evaluate self-efficacy, defined as the view of teachers' "perceptions of their own teaching abilities" (Ashton & Webb, 1986, p. 4), has emerged. A variety of research has been conducted on the efficacy of teachers working with students in a group or classroom setting (Caprara et al., 2006; Lee et al., 2014; Shoulders & Krei, 2016; Tschannen-Moran & Hoy, 2001; Zee et al., 2016). Yet, with the number of studies that continue to be published, there remains a missing component in including special teachers, such

as the school librarian, in assessing efficacy or evaluating collaborative efforts relating to special education.

As students with special needs are included within regular classrooms, these students often participate in what is commonly known as *special* classes at the elementary level. Trained professionals typically teach these classes (i.e., music, physical education, art, and library), some of which may have some background knowledge in special education even though it is not typically a requirement for a position of this nature. For elementary school librarians in Pennsylvania (the setting for this study), they must hold a teaching certificate in Library Science, typically acquired by earning a Bachelors of Education or Masters degree in Library Science. Some of the coursework may include basic special education concepts, yet there is no mandate for school librarians to hold certification in Special Education. For example, one institution that awarded a Bachelors of Education in Library Science within the state of Pennsylvania required a total of nine credits, or three courses, within the field of special education in its undergraduate curriculum. Nine credits do not equate to any type of concentration or track at this institution. It is this lack of specialization in meeting the needs of learners with disabilities in which research is needed to determine elementary school librarians' perceptions of their ability to work with students identified as needing special accommodations. This study is designed to add to the body of literature regarding self-efficacy, special education, and elementary school librarians as there is a lack of data on school librarians and students with disabilities.

Purpose of the Study

This study was developed to contribute to the literature relating to teachers, self-efficacy, and meeting the needs of students with disabilities while providing data focusing on elementary school librarians. The theory that a teacher's perceived efficacy impacts students' success in both

the elementary or high school environments has been supported by research (Goddard et al., 2000; Orlich et al., 2004). Studies focusing on efficacy have been implemented for decades and have centered on traditional classrooms or students with disabilities (Brownell & Pajares, 1999; Buell et al., 1999; Evans & Tribble, 1986; Lombardo-Graves, 2017; Tschannen-Moran & Woolfolk-Hoy, 2001). While some studies were used to introduce and analyze a new instrument (Lombardo-Graves, 2017) or reviewed previously used instruments (Tschannen-Moran and Woolfolk-Hoy, 2001), others highlight educators belief that their level perceived efficacy impacts the success of their instruction to students with disabilities (Brownell & Pajares, 1999) and special education teachers rate their efficacy higher than their counterparts in the general classroom (Buell et al., 1999).

Within studies that examine school libraries and their connection to students with disabilities, the view has been broad, ranging from professional training and course offerings in school library certification programs to the collaborative efforts in place (Hill, 2012; Perrault, 2011). An identified gap in the literature centered on school librarians and beliefs in providing instruction and services to students with special needs. Hill (2012) has opened the door for research relating to school libraries and their partners in special education classrooms. Yet, there remains a need to study school librarians and their beliefs in providing library services to students with disabilities in the regular classroom setting. This study seeks to add to the literature and will explore self-perceptions of elementary librarians and their skills and abilities in working with students who have been identified with special needs through the utilization of a previously developed survey that has been implemented with classroom teachers.

Theoretical Framework

Social Cognitive Theory (SCT)

As this study aims to examine perceptions of ones' abilities in the school library setting when working with students with disabilities, the focus lies in self-efficacy, the main artery of social cognitive theory. The leading researcher in social cognitive theory is Albert Bandura, who has been publishing on SCT for decades. At the crux of social cognitive theory is the idea that people are active operators in their life, not just bystanders watching events unfold (Bandura, 1999). In 1986, Bandura stated that "people construct outcome expectations from observed conditional relations between environmental events in the world around them, and the outcomes given actions produce" (p. 7). Thus, social cognitive theory links motivation and actions taken to what is happening in the forefront of the mind (Luszczynska and Schwarzer, 2005).

As social cognitive theory focuses on the perception of self, it has been utilized in various disciplines. For example, Andersen and Chen (2002) looked at social cognitive theory through the lens of interpersonal growth and emphasized the self-being relational and intermixing with others, leading to implications for defining one's self and direct relation to the personality shared. This idea that one can form opinions and make decisions based upon world experience leads to personal perception and has an immediate impact on how they view their abilities in various situations. Bandura (1986) provided the basis for this observation as it supports the concept of individuality and the expression of control over one's thoughts.

Self-Efficacy. According to Bandura (1993), self-efficacy beliefs can take various forms in their cognitive processes. For example, individuals who possess a high sense of efficacy can visualize successful situations while those who exhibit doubt in their abilities see themselves failing and perseverate on the ways they can fail as those who demonstrate self-doubt are quick

to believe the process is useless if their efforts are below expectations (Bandura, 1986; Bandura, 1993).

Bandura (1977) outlines four main sources of information in which expectations of personal efficacy are based: 1.) Performance accomplishments, 2.) Vicarious experience, 3.) Verbal persuasion, 4.) Physiological states. Within performance accomplishments, personal mastery experiences serve as the base (Bandura, 1977). While success raises mastery expectations, failures can deplete them yet through repetition and repeated success, the number of failures will most likely be reduced (Bandura, 1977). In terms of educators in the classroom, an example is implementing a new means of presenting the information. If a new lesson goes well, one can expect to repeat the process. If it does not unfold as intended, there are options. First, one could avoid trying again or, revisions could be implemented, and another attempt could follow. Failures that transform into winning strategies work to strengthen self-motivation (Bandura, 1977).

Self-efficacy is at the forefront of many studies when looking at one's perceptions and abilities, specifically within education. Rotter (1966) provided the theoretical foundation for the development of works focused on teacher efficacy. Likewise, social learning theory, a close relation to social cognitive theory, is founded on the idea that a behavior or action will lead to an expected reaction based upon previous experience (Rotter, 1966). It is through a combination of these two theories that the study of teacher efficacy began. As efficacy studies continue to evolve, there remains a gap in examining the self-efficacy of school librarians and their abilities related to students with disabilities, which is why this study holds value for both those in the fields of education and library science.

Research Questions

Research question 1. How do elementary librarians perceive their abilities to meet the needs of students with disabilities in their library classrooms?

Research question 2. To what extent does instruction in the library setting influence self-efficacy of the school librarian when teaching students with disabilities?

Research question 3. To what extent does professionalism influence self-efficacy of the school librarian when teaching students with disabilities?

Research question 4. To what extent does teacher support influence self-efficacy of the school librarian when teaching students with disabilities?

Research question 5. To what extent does classroom management influence self-efficacy of the school librarian when teaching students with disabilities?

Research question 6. To what extent do related duties influence self-efficacy of the school librarian when teaching students with disabilities?

The initial research question reflects the overarching theme of this study as the purpose of the research is to provide baseline data on elementary school librarians' perceptions of their abilities in meeting the needs of their students with disabilities. The remaining research questions highlight relatable factors that have an impact for school librarians.

As this study is quantitative, each question will undergo analysis from the data collected within the survey instrument, including the 14 initial construct questions. These opening questions begin by stating, "How much can you..". These questions provide the baseline, and additional questions directly relating to the teachers' perceptions of abilities and needs in terms of instruction, teacher support, and classroom management will follow.

Definitions

The following terms are defined due to their appearance throughout the study. Terms included relate to the data analysis process, the concept of self-efficacy, or the field of special education.

Bootstrapping: defined as "a resampling approach that draws random samples (with replacement) from the data and uses these samples to estimate the path model multiple times under slightly changed data constellations" (Hair et al., 2017, p. 185-186)

Efficacy expectation: the conviction that one can successfully execute the behavior required to produce the outcomes (Bandura, 1977)

FAPE: Acronym for Free and Appropriate Public Education

Hierarchical Component Models (HCMs): Also known as higher-order models, HCMs uses constructs for examination in a more complex fashion (Hair et al., 2017)

IEP: the individual education plan (IEP) must specify the objectives and goals of the services implemented concerning the students' education as well as the methods to achieve these goals and the services to be provided to the student (Orlich, Harder, Callahan, Trevisan, & Brown, 2004)

Inclusion: a term used by educators to describe the placement of students with disabilities in general education classes (Bateman & Bateman, 2014)

Inclusive classroom: a classroom that includes students with physical, cognitive, and emotional disabilities in a co-teaching environment rather than in separate special education classes (Perrault, 2011)

Mixed-Methods Research: combining or integrating qualitative and quantitative research and data in a research study (Creswell & Creswell, 2018).

Pedagogy: comes from the Greek term *paidagogeo*, which translates to “lead the child” (Rosch & Anthony, 2012) and is defined as “the art, science, or profession of teaching” (Merriam-Webster, 2020).

PLS-SEM: Partial Least Squares – Structural Equation Modeling (Hair et al., 2017)

Self-efficacy: people’s beliefs in their capabilities to produce given attainments (Bandura, 1997)

Special Education (SPED): specially designed instruction, at no cost to the parents, to meet the unique needs of a child with a disability, including instruction conducted in the classroom and in physical education (IDEA, 2017).

Summary

In determining the need for this study, a gap in the literature exists when exploring the research available on elementary librarians and their perceptions of ability to work with students with disabilities. Schumm and Vaughn (1995) evaluated multiple studies conducted over a five-year period to determine the achievement of students with disabilities in the regular classroom under the umbrella of inclusion. The conclusion showed that general classroom teachers felt underprepared to handle the learning needs of their students with disabilities (Schumm & Vaughn, 1995). Changing focus from general classroom teachers to special educators, Buell et al. (1999) surveyed special education directors and teachers, seeking to determine "relationships between teachers' feelings of efficacy concerning educating students with special needs and to identify the training and supports teachers need to be successful with these students in inclusive program settings" (p.151).

The missing component within the research are studies relating to school librarians and their abilities in working with students with disabilities. Literature highlights school librarians as co-partners and collaborators, activists for assistive technology and technology leaders (Francis

& Lance, 2011; Franklin, 2011; Hunt & Luetkehans, 2013; Subramaniam et al., 2012). Yet, there remains a gap in determining the abilities of elementary school librarians as they relate to serving students with disabilities.

In chapter 2, a detailed review of the literature will highlight support for this research study. While many studies were conducted regarding perceptions of both general classroom and special education teachers, the missing data relating to school librarians, specifically elementary librarians, is easily identified. Thus, this study will begin to provide a baseline of information about the perceptions of school librarians and address the current void in the literature.

Chapter 2: Review of the Literature

Introduction

Teachers in the school setting often develop their skills and abilities through education and professional development, leading to the implementation of their personal teaching style in their classroom. Through self-efficacy research and scales, literature on teachers' perceptions of self continues to be published and researched. Theorists devoted to the study of self-efficacy indicate that individuals seek opportunities or activities where they feel they can be successful and refrain from participating in those they are not as confident (Brownell and Pajares, 1999). The perception of a teacher's ability in the classroom has an impact on their satisfaction with their job as well as the academic achievement of students in their classrooms (Caprara et al., 2006).

The practice of evaluating self-efficacy within the special education setting is on the rise for both practicing and preservice teachers (Buell et al., 1999; Lombardo-Graves, 2017; Montgomery & Mirenda, 2014; Shillingford & Karlin, 2014; Shoulders & Krei, 2016; and Zee, 2016). As the focus of the literature on self-efficacy lies within the regular and special education classroom settings, this study focuses on the self-efficacy of elementary librarians within schools in Pennsylvania as there is limited literature on the self-efficacy of school librarians. For example, two studies identified in the literature review process, both with a library base, focused on varying types of literacies (Weber, 2017) and scheduling and instruction (Carson, 1993), but neither addressed students with disabilities.

Within this literature review, the researcher will take a historical look at special education. Specifically, how the concept of inclusion has risen to the forefront with the need to serve students with disabilities in varying types of classrooms, specifically the school library. The

inclusion of all learners in the school library opens the door for librarians to support students with disabilities, including emotional, social, and behavioral issues (Jurkowski, 2006).

In addressing each topic as previously presented, this literature review consists of eight sections with appropriate sub-sections 1. Social Cognitive Theory and Self-Efficacy, 2. Self-Efficacy and the School Setting, 3. Elementary Librarians as Teachers, 4. Classroom Management for Students with Disabilities, 5. Teaching Students with Disabilities, 6. Inclusive Practices in the School Library, 7. Librarians as Partners in Special Education, and 8. Educational Training of School Librarians.

Social Cognitive Theory and Self-Efficacy

Social Cognitive Theory

In social cognition, human functioning is spurred by environmental factors and in conjunction with behaviors, cognitive thought, and personal factors (Bandura, 1986). In essence, perceptions are formed from many variables, not just from individual reflection or the setting in which one finds themselves. Social cognitive theory is a complex process that involves people "as agentic operators in their life course not just onlooking hosts of internal mechanisms orchestrated by environmental events" (Bandura, 1999, p.4).

The notion that people use various factors when determining perceptions is the crux of social cognitive theory. Bandura (2001) states, "people are sentient, purposive beings. Faced with prescribed task demands, they act mindfully to make desired things happen rather than simply undergo happening in which situational forces activate their subpersonal structures that generate solutions" (p. 5). This idea directly connects to the purpose of this study as it relates to thought and reasoning used by school librarians in regards to their students identified with special needs. This thought process includes the library setting, how librarians provide

instruction to students with varying needs and abilities, and managing behaviors. All of these factors will be examined within this study.

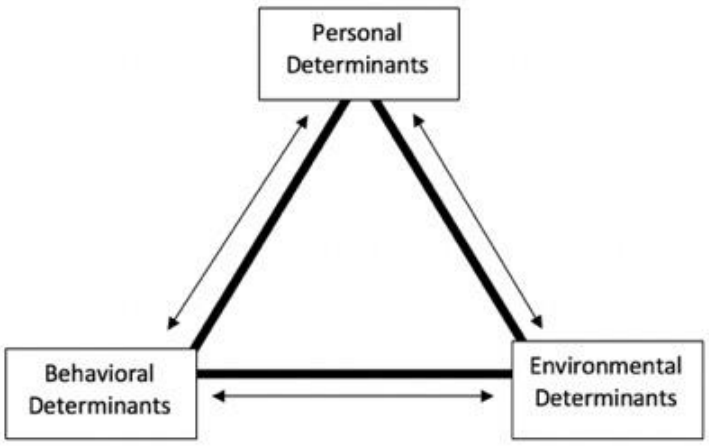
Triadic Reciprocal Causation.

According to Bandura (1999), human behavior is often viewed in isolation with impact from either environment or internal dispositions. Bandura (1999) indicates that perceptions are based on causation, meaning a "functional dependence between events" (p.6). The notion of three factors is derived from "personal factors in the form of cognitive, affective, and biological events; behavioral patterns; and environmental events all operate in interaction determinates that influence on another bidirectionally" (Bandura, 1999, p. 6).

To conceptualize this, see Figure 1. This figure is a schematic image highlighting the connection between behaviors, cognitive, and environmental factors that Bandura (1986) designed to help one visualize the interactions.

Figure 2.1

Schematizations of the relations between the three classes of determinates in triadic reciprocal causation (Bandura, 1986)



Note. Retrieved from eNotes.com

Consciousness. The concept of consciousness directly relates to self-efficacy in terms of the relationship between thoughts and actions and can be found in the literature pertaining to social cognitive theory (Bandura, 2001). The connection between consciousness and cognitive regulation of one's actions is addressed by Carlson (1997) in his book focusing on experienced cognition. When studying the concept of self-efficacy, researchers are seeking personal beliefs and insight into ones' ability within a specific setting, such as in the classroom. This personal reflection stems from the background and beliefs of ones' self. The research questions in this study focus on the concept of self-efficacy, yet they also address school librarians' perceptions of their ability to provide instruction, demonstrate professionalism, utilize classroom teacher support, classroom management, and implement other duties related to serving students with disabilities, which are directly addressed in research questions 2 - 6.

Bandura (2001) suggests that "without a phenomenal and functional consciousness, people are essentially higher-level automatons undergoing actions devoid of any subjectivity or conscious control" and goes on to discuss consciousness as "the very substance of mental life that not only makes life personally manageable but worth living. A functional consciousness involves purposive accessing and deliberative processing of information for selecting, constructing, regulating, and evaluating courses of action" (p.3).

Self-efficacy. The evaluation of teachers' self-efficacy is not a new concept and is present in the research. A pioneer in the study of self-beliefs, Bandura (1977, 1993) introduced social cognitive theory, directly the notion of self-efficacy. Bandura (2005) defines self-efficacy in terms of one's belief in their abilities or efforts to yield specific outcomes. Within the field of education, multiple studies and instruments are available to determine the self-efficacy of preservice and practicing teachers. Studies have been conducted relating self-efficacy to specific

disciplines such as mathematics (Hill et al., 2017; Kul & Celik, 2017; Peker & Erol, 2018) and science (Lotter et al., 2018; Sensoy & Yildirim, 2018; Sultan et al., 2018) as well as studies conducted in the elementary setting, which are addressed later within this literature review.

As one of the prominent figures in research on self-efficacy, Bandura (1977) states that the notion of efficacy centers on one's belief in their implementation of behavior in producing an outcome. Furthermore, the construction of a practical efficacy scale "relies on a good conceptual analysis of the relevant domain of functioning" (Bandura, 2006). The research questions developed for this study contain the term "self-efficacy" and seek to identify a relationship between self-efficacy and other independent factors, such as classroom management or instruction. The research questions are designed to determine at what extent these five various factors within the library setting impact one's efficacy.

In selected studies evaluating self-efficacy, tribute is given to Rotter's social learning theory and concept of locus of control (Carson, 1993; Tschannen-Moran, Woolfolk-Hoy, & Hoy, 1998). As Rotter (1966) serves a theoretical base, Bandura (1986) notes that "this conceptual scheme is primarily concerned with causal beliefs about the relation between actions and outcomes rather than personal efficacy" (p. 413).

Zimmerman (2000) describes self-efficacy about one's self, stating that "self-efficacy measures focus on performance capabilities rather than on personal qualities, such as one's physical or psychological characteristics" (p. 83). Zimmerman (2000) states that self-efficacy should be viewed as multidimensional as responses to questions will vary depending upon differing variables. Self-efficacy can provide context using a broad brush to paint the picture of perceptions.

Pajares (1996) states:

Efficacy beliefs help determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will prove in the face of adverse situations—the higher the sense of efficacy, the greater the effort, persistence, and resilience (p. 544).

This idea, presented by Pajares (1996), resonates with the research questions developed for this study. The need to develop an understanding of how confident and prepared non-classroom teachers, such as school librarians, perceive their abilities in working with students with disabilities is understudied and vital to the field of library science as school librarians continue to evolve in their role of educator.

Self-Efficacy in the School Setting

When exploring the literature surrounding self-efficacy as it relates to teachers in K-12 education, a variety of studies emerge. As previously referenced, Rotter (1966) and Bandura (1977) established the groundwork of self-efficacy. Researchers worldwide have used the concept and developed instruments and studies with self-efficacy as the focus. Gibson and Dembo (1984) claimed that "Self-efficacy beliefs would indicate teachers' evaluation of their abilities to bring about positive student change" (p. 570). Based upon their idea, Gibson and Dembo (1984) developed a self-efficacy tool and, in its final form, contains 30 questions relating to teachers' perceptions and beliefs in regards to meeting students' learning needs (i.e., Even a teacher with good teaching abilities may not reach many students). Participants use a 6-point Likert scale to answer each of the questions. The analysis consisted of "a multitrait-multimethod analysis that supported both convergent and discriminant validity analyzed data from teachers on three traits (teacher efficacy, verbal ability, and flexibility) across two methods

of measurement" (Gibson & Dembo, 1986, p. 569). This Likert scale was one of the first scales developed relating to teacher efficacy at that time.

Supporting the notion of self-efficacy, Bem (1972) highlights self-perception theory and how one" knows "their attitudes and beliefs. The process of using observation of ones' self in terms of behavior in a given situation supports the notion that "many sources of information – enactive, vicarious, exhortative, and emotive" are used by individuals to determine their efficacy (Bandura, 1977, p.200). The critical factor in judging self-efficacy or self-perceptions depends on how information is processed cognitively (Bandura, 1977).

In the 1990s, studies on self-efficacy began to be published and demonstrated teacher's efficacy with students in identified populations, ranging from students in the general education classroom to students with disabilities and the inclusion process (Buell, Hallam, & Gamel-McCormick, 1999; Brownell & Pajares, 1999). The work of Gibson and Dembo (1984) did not go unnoticed as their instrument was the key to studying self-efficacy. Researchers began using their tool to "investigate the impact of teachers' sense of efficacy on their behaviors and attitudes and student achievement, as well as examining relationships of teachers' efficacy to school structure and climate" (Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998, p. 213).

Over the past two decades, there has been an increase in the number of studies on inclusion and self-efficacy. The lens of looking at special education has broadened as other classroom environments, aside from regular classrooms, have begun evaluating inclusive practices. Hill (2012), Assistant Professor at Syracuse University, conducted telling research on the strengths and opportunities of school librarians serving students with special needs in the library setting. Hill (2012) found that school librarians rated themselves with average knowledge in terms of best practices in special education.

Survey instruments relating to self-efficacy

Carson (1993) created a tool to measure the self-efficacy of school librarians based upon *Information Power*, the guidelines developed for school libraries. This scale, labeled as the School Library Media Specialist (SLMS) Self-Efficacy Scale, consisted of 48 items, 24 negative and 24 positives. It is because of scales such as this that have opened the door for developing additional instruments to begin measuring various aspects of teaching, professionalism, classroom management, etc., within the school setting.

This study utilized an instrument developed by Heather Dawson and LaRon Scott in 2013. The survey instrument, titled *Teaching Students with Disabilities Efficacy Scale* (TSDES), was created based upon a scale developed by Tschannnen-Moan and Woolfolk Hoy's *Teachers' Sense of Self Efficacy Scale* (TSSES, 2001). The work of Dawson and Scott (2013) has been cited and utilized in many studies relating to self-efficacy, including a survey of the preparation of teachers of students with Autism Spectrum Disorder (Strong, 2014).

While many of the studies citing the work of Dawson and Scott (2013) focus on students with disabilities in a direct capacity (Bunch, 2018; Gilligan, 2019; Johnson, 2015; Sood & Agnihotri, 2015; Zhang et al., 2018), others look at teaching students with disabilities through a different lens, such as through the eyes of a teacher in the Catholic school setting (Perry, 2019) or in an urban environment (Carroll, 2019). The use of instruments focusing on teachers' self-efficacy continues to expand with various populations, demonstrating the support to study librarians within the school setting.

Teaching Students with Disabilities

A Brief History of Special Education

Inclusion. Historically, students with disabilities experienced exclusion from their peers in the general classroom. The practice of including students in the regular classroom is the current practice. The idea of inclusion, the opposite of exclusion which was the past practice in working with students with disabilities, is the premise for ensuring students are educated in mainstream schools (Sydney, 2010).

The overarching idea of inclusion is described as "places where students with disabilities are valued and active participants and where they are provided supports needed to succeed in the academic, social and extra-curricular actives at school" (McLesky, Waldron, Spooner, & Algozzine, 2014, p.4).

The argument for inclusion has gained support due to federal and state laws and centered around guaranteeing a "free and appropriate education," best known as FAPE (Orlich, Harder, Callahan, Trevisan, & Brown, 2004, p. 12). In support of FAPE, IDEA also mandates that the free and appropriate education provided occur in the least restrictive environment, or LRE (Gordon, 2006), described in greater detail later within this literature review.

Hammond and Ingalls (2003) provide an insight into the history of inclusion, stating that in the 1980s, there was a national call made to include all students in the general education classroom. A driving force for inclusion was the desire for students with disabilities to have interactions and engagement with their peers (Zimmerman, 2002). The incorporation of all students, despite abilities, into one learning environment initiated a shift in how instruction is provided. Inclusive classrooms experienced growth as a collaboration between students began to emerge through the sharing of knowledge (Gardner, 2002).

Least Restrictive Environment (LRE). LRE intends to provide all students, regardless of ability or disability, the opportunity to learn with their peers to the "maximum extent possible" (Wade, 2000). In the 1980s and '90s, the buzz around special education centered on where students should be receiving class instruction more than the instruction provided (Crockett & Kauffman, 1999). The term "least restrictive environment" was a product of federal law ensuring that each student receives a free public education in the least restrictive environment (Crockett & Kauffman, 1999). A key factor of LRE is the understanding that this environment will vary for each student in both physical location and time spent in the setting (Crockett & Kauffman, 1999).

Individual Education Plans (IEPs). To ensure that students' needs are being met, individualized education plans, best known as IEPs, are developed to encompass objectives, goals, and strategies designed for each student as a customized plan to help meet their educational needs. Jones, Zambone, Canter, and Voytecki (2010) identify the IEP as "a written plan that specifically describes the services and supports necessary for students with special needs to be successful" (p.65). With the introduction of special education legislation in 1975 and the further development of IDEA, there was a call for "parents be full partners with school staff in educational planning for their children and that youth with disabilities meaningfully participate in planning their post-high school transition so that their preferences and goals guide the planning process" (Wagner et al., 2012, p. 1).

Additionally, the development of an IEP requires an initial meeting to determine a child's eligibility in receiving an IEP. There is also a need for an annual meeting that includes parents, teachers, and other school personnel (Siegel, 2017). In the planning process, teachers must evaluate each student's abilities (including strengths and weaknesses) while establishing goals

that are “ambitious, attainable, and socially significant” (Alber-Morgan, Konrad, Hessler, Helton, & Telesman, 2019, p.152).

Upon developing and implementing the IEP, all teachers interacting or providing instruction to the individual student should have access to the IEP itself. Each student’s IEP should be readily available to all teachers and assistance available to interpret and implement the plan.

By completing this research, one can begin to understand if those support teachers, such as librarians, have knowledge of the IEP and work to implement the IEP in their classroom setting. When searching the literature for information on school librarians and their involvement with IEPs, this is a blatant gap in the literature.

Positive Classroom and Management Practices

Despite the movement of including students with disabilities in regular classrooms, there is still debate regarding the quality of education for students with disabilities (Gordon, 2006). There is a call for differentiating instruction within the general classroom setting to provide instruction to all learners but at varying levels yet avoid excluding any individual, which is a challenge (Florian, 2015). The literature shows a disconnect for teachers in ensuring that all students receive instruction at a level appropriate for them. Guskey and Jung (2009) state that “teachers at all levels of education today struggle in their efforts to assign fair, accurate, and meaningful grades to students with disabilities, especially those placed in general education classrooms” (p.53).

The process of grading hinges upon a standard planning tool – outcomes. McLeskey and Waldron (2011) address what they call “a central issue” for inclusion with a focus on the “extent to which these placements produce desirable student outcomes” (p. 48). This statement directly

resonates with the need for training and collaborative efforts to ensure students with special needs have become prominent members of the general classroom due to inclusion. The idea of inclusion extends beyond the grade-based classrooms.

The majority of students (excluding those with significant physical or mental conditions) participate in specials such as physical education, art, music, and library instruction. Research has indicated that while special education teachers and school librarians receive different training and teach in varying classroom environments, there is a need to create a partnership (Perrault, 2011).

With the introduction of IDEA and its call for the least restrictive environment (LRE), special education practices embedded themselves within classrooms, including the school library, opening the door for collaboration (Jones, Zambone, Canter, & Voytecki, 2010). These collaborative efforts serve to ensure that students have the resources and means to reach success. Concerning school libraries, Hopkins (2005) states that "special educators and library media specialists can launch a partnership to review special needs learning resources throughout the school" (p. 17). In many schools, librarians serve as a resource for both students in teachers in securing materials in the planning and implementation of classroom assignments. Krueger & Stefanich (2011) describe the school librarian as a leader in discovery with their students.

Leadership skills can often be seen in librarians while assisting classroom faculty in locating materials for planning or working one-on-one or in small groups with students within the library itself. However, when it comes to working with students with disabilities, "most school librarians have little if any background in dealing with challenging social situations" (Jurkowski, 2006, p. 80).

In the state of New York, a study was conducted with school librarians to determine the degree to which they are prepared to meet the information needs of all library users, including students with special needs (Hill, 2012). This study set out to determine what strengths the library professionals possessed and demonstrated in meeting their students' needs.

Previously, Small et al. (2010) reported on a multi-phased study designed to determine impact factors of school librarians in relation to student achievement. Within the first and second phases of the study, surveys were administered to teachers, students, and librarians from 47 schools throughout the state of New York. The findings show support for previous studies conducted, such as the study by Oberg in 2001.

Small et al. (2010) indicate "demonstrating a positive relationship between school libraries and student achievement, regardless of educational need (school district or student poverty) or the financial resources of the school district" (p. 2). These types of studies open the door for additional research, such as this current study on the self-efficacy of school librarians in the state of Pennsylvania.

One factor that remains consistent across varying classrooms in the elementary setting is the need for classroom management skills. Students may exhibit behavior issues at any time, not just in the regular classroom. Greenberg, Putnam, and Walsh (2014) indicate that over the past six decades, there have been over 150 studies conducted and that three formalized analyses of these studies have been published.

Through this evaluative process, Greenberg et al.(2014) highlight five direct strategies that have been identified as the basis for educators in the classroom management process:

1. **Rules**: Establish and teach classroom rules to communicate expectations for behavior.

2. **Routines**: Build structure and establish routines to help guide students in a wide variety of situations.

3. **Praise**: Reinforce positive behavior using praise and other means.

4. **Misbehavior**: Consistently impose consequences for misbehavior.

5. **Engagement**: Foster and maintain student engagement by teaching interesting lessons that include opportunities for active student participation. (p. i – ii).

These strategies often serve as the baseline for educators as they begin to develop means in which classroom management plays a role in the classroom setting. Educators in the classroom observe that some ways in which classroom behaviors are managed may work with some students yet have zero effect on others (Greenberg et al., 2014).

As the number of students diagnosed with behavioral or learning disabilities continues to rise, classroom management must shift with this rising trend. While there has not been one method of classroom management that works for every student, the need is great to develop new techniques in handling disruptive students. Scott (2017) addresses the need to view classroom behavior management and instruction in the same vein. Classroom behavior management aims "to train teachers to teach and shape behaviors that predict and facilitate higher rates of student success" (Scott, 2017, p. 98).

School districts are taking a broader approach in handling discipline issues to address the change in students and classroom management. A whole-school, multi-tiered system known as School-wide Positive Behavioral Interventions and Supports (SWPBIS, or PBIS) has been designed to handle both behavior issues and academic support in a team fashion as opposed to the silo that is the individual classroom (Barrett, Bradshaw, Lewis-Palmer, 2008; Chow &

Gilmour, 2016). The goal of PBIS is to provide overarching support to students regarding expectations in behavior and effort. There are three tiers to the process – primary, secondary, and tertiary. While most students fall within the Primary Tier, at-risk and students with behavioral or emotional challenges often fall into the Secondary and Tertiary stages (Sugai & Horner, 2006 as cited by Barrett et al., 2008).

PBIS involves classroom teachers, specials teachers, custodians, school police, guidance counselors, secretaries, and any other school employee with a school-wide approach. PBIS has opened the door for discussion on how to handle discipline issues and how best to work together to meet the needs of students for academic success. An essential foundation for PBIS is the premise of building relationships (Finch, 2018).

When we look to manage behaviors, connecting with students is necessary. For librarians, they have faced the challenge of handling classroom behaviors at a disadvantage from classroom teachers. Blackburn and Hays (2014) state that "unfortunately, classroom management skills are not taught in library school and therefore, many librarians are forced to learn on the job" (p.1). The idea of classroom management for librarians will be further discussed later in this chapter.

With programs such as PBIS, school librarians are included in establishing behaviors as opposed to handling issues on their own in isolation. In Pennsylvania, the majority of school library programs include coursework relating to classroom discipline, yet the content is brief and often not provided at an in-depth level due to time constraints. Despite the lack of training, school librarians have handled behavior issues, and today, they have support through programs, such as PBIS, to engage with other teachers for assistance. Pentland (2018) indicates that a

common way to begin handling discipline issues is through the process of working to know your students and colleagues.

Relationships are a crucial factor in managing undesirable behaviors in the classroom. When you know about your students or seek assistance from a teacher who has a positive rapport with a particular student, this background knowledge can assist in handling the behavior.

Elementary School Librarians as Teachers

The work of the school librarian has evolved and changed throughout history. Librarians were once known for checking out books and keeping the library quiet and tidy.
Fast forward to the 21st century, and the school librarian is taking on the role of a teacher—lesson planning and objective development is relevant for the library. The advancements in technology usage in K-12 schools have been a significant factor in this shift (Lo & Chiu, 2015; Perez, 2010; Wine, 2016). More importantly, school librarians have transformed into collaborative partners with both classroom and special education teachers.

The notion that librarians are teachers has had an ebb and flow for decades.
Carson (1929) published a piece indicating that librarians were teachers – they should attend faculty meetings and have the same vacation or receive additional money for weeks worked beyond their school year. Carson (1929) states that librarians are not always perceived as teachers by teachers and administrators. Today, school librarians have begun to shift into teachers over the title of the librarian. As noted above, lesson planning and collaborative efforts are occurring.

Jones et al. (2010) state that librarians play an essential role as partners in the learning process, especially for students with special needs. For students with disabilities, “the IEP, a written plan that specifically describes the services and supports necessary for students with

special needs to be successful, is a working document developed collaboratively by school staff and parents that focuses on the social, academic, and independence needs of the child" (Jones, 2010, p. 67) and still, the school librarian is often excluded in this process. Canter et al. (2011) acknowledge the need for collaboration between special educators and classroom teachers but identify school librarians as "the forgotten partner" (p. 14). This issue stems two decades following a study in 1999 in which "good practices were found" in relation to school librarians providing adequate services to students with disabilities, yet there was a call for advances and an increase in communication between school librarians and special education teachers (Murray, 2002, p. 301).

While school librarians are not directly involved in determining modifications and accommodations for students, through collaboration with special education teachers, librarians can ensure that learners' needs are being met (Perrault, 2011). These collaborations include creating learning materials specific for identified students and alternative resources available to students and teachers available through the library setting (Hopkins, 2005). This collaboration process can be present in three forms – a low-level imitation, a moderate level described as guidance, and the third level being scaffolding (Granott, 2005; Hamman, Lechtenberger, Griffin-Shirley, & Zhou, 2013).

School Librarians as Partners in Special Education

As school librarians continue to advance their skills in handling discipline, they show progress in working with students identified with a disability. Special education teachers can provide tips, tools, and assistance and serve as a reliable resource for school librarians. Additionally, special education teachers can assist with behavioral issues and academic

challenges (Chow & Gilmour, 2016). If this collaboration is not happening, school librarians may feel inept in handling discipline issues for all students in the library setting.

With the ever-changing role of the school librarian, this position is often overlooked as a potential partner in collaboration and planning, especially for students with disabilities. In addition, more and more, school librarians are often seen as technology experts as well. As this may be the case, school librarians wear many hats— the idea of being a teacher usually one of the last to gain recognition. Being viewed as a teacher is imperative when evaluating the school librarian as a partner or collaborator. Jones et al. (2010) point out that the similarities between school librarians and teachers in the field of special education "are significant" (p.65).
An example of this relates to information literacy. School librarians advocate for information literacy, and special education teachers work with their students to develop their information literacy skills (Jones et al., 2010).

As Hopkins (2005) explains, school librarians and special education teachers have the opportunity to band together and develop a partnership that consists of collaboration, offering new opportunities in the school setting. To determine how the paths of school librarians and special educators intersected, Perrault (2011) conducted a study to determine how both groups of teachers support the learning of their students with special needs. Perrault (2011) established that both groups felt there was a lack in three areas – characteristics of specific disabilities, pedagogical approaches to meet the needs of exceptional learners, and how to obtain access to multimodal resources and use them in an effective manner.

While the school library has been identified as a place where all students are welcome, and an effort is made to meet the needs of all learners, they continue to fall short in collaborating with both classroom and special education teachers. Jurkowski (2006) shares insight about the

library as it relates to those students with emotional issues, learning difficulties, and those in search of personal information and research. What lacks is the connection between the school librarian and those involved with special education, ensuring that the services provided match the learner's needs.

Aiding in the divide of school librarians and teachers is the idea that a library is a different place, separate from their curriculum and studies in which students can go to escape, relax, or hide from their academic challenges (Krueger & Stefanich, 2011). On the contrary, the library should be viewed as an extension of the classroom. Instead of a release from academic pressure, the library should a support service for academic studies. Jurkowski (2006) defines the library as more than a place with books - "there is an underlying role for guidance and support that transcends basic classroom information needs" (p. 78). In elementary schools, the library is often viewed as a placeholder within each classroom schedule, ensuring classroom teachers have their guaranteed preparation period for planning. This mentality needs to change as school librarians are a valuable asset due to their credentials and ability to collaborate with classroom and special education teachers.

Inclusive Practices in the School Library

In today's schools, the concept of inclusion is not a new trend as it has become common practice in schools around the globe (Hopkins, 2005). The opportunity for school librarians to serve as leaders in teaching inquiry skills is at its highest peak, including teaching these skills to *all* learners (Krueger & Stefanich, 2011).

While many schools are addressing the building's physical design in meeting the needs of all learners (such as wheelchair lifts and ramps), Hopkins (2004) questions how to move beyond

the structural changes and ensure that library resources can be of greater use to students with special needs.

For students with disabilities, the Individual Education Plan (IEP) is crafted and implemented. These IEPs are roadmaps for accommodations and services for students. This researcher hypothesizes that school librarians have little or no knowledge of what the IEP may contain or how to access a student's IEP. Perrault (2011) included questions regarding IEPs in her research and found that "reading and acting on a student's IEP does not yet seem to be a widespread practice by school librarians" (p.x). Furthermore, some librarians noted their lack of understanding on how to locate or access – or even that an IEP could assist them in learning more about a student, their needs, or the student's disability.

Many studies have been conducted with a focus on collaboration between school librarians and special education teachers. Despite that, there is a distinct lack of literature about school library programs and their services to specific populations with an identified disability or the lack of training possibilities for school librarians to successfully implement these services (Subramaniam, Oxley, & Kodama, 2012). To address this gap, Subramaniam et al. (2012) studied three special education schools (with a focus on a specific disability such as visual impairment or autism) to determine the following:

1. The types of facilities, services, and resources SLPs provide to students with specific disabilities in SPED schools;
2. The technologies that facilitate physical and intellectual access for these students within the school library;
3. The extent to which federal disability guidelines are implemented in the design and delivery of these SLPs; and

4. The specialized training that enables school librarian to better support students with special needs. (p.1).

Educational Development of School Librarians

Preservice Coursework

When evaluating the education programs designed to train and certify school librarians, the literature lacks scholarly research. As this researcher has experience implementing curriculum within school library certification programs, it is not surprising that there is a lack of academic literature relating to the training and qualifications of school librarians. There is an evident lack of research on training programs for school librarians within the body of literature.

However, one study with teachers in the state of New York found that "lack of preparation in their preservice or graduate programs" was noted as a reason for their lack of confidence and knowledge gaps in their work with students (Perrault, 2011, p.x). The study's findings parallel the work of Johnston et al. (2012) on the necessity to reinstate school library certification programs such as the University of Kentucky; the decision was made to begin the process of placing the School Library Media Certification program in a moratorium, suspending new admissions. The researchers conducted focus groups within the study, which "provided valuable information on the skill sets that school library media specialists need" (Johnston et al., 2012, p. 202.)

The skills of school librarians have varied over time. The guidelines provided to school librarians were updated in 2009 by the American Association of School Libraries (AASL) through the publication of *Empowering Learners: Guidelines for School Library Media Programs*. These guidelines proposed that school librarians incorporate technology skills within the curriculum to enable students to become effective users of information (Johnston, 2015). In

many districts, IT offices have transitioned into the school library, developing a connection between information literacy and access to technology.

In support of this movement, Wine (2016) states that:

> This leadership role in technology integration is often in conflict with a new role in K-12 schools, that of an instructional technology specialist. This new role is also charged with integrating technology into classroom instruction by working with faculty and students. School librarians and instructional technology specialists have complementary roles that would benefit students and staff through a collaborative team approach to support. (p.207)

Incorporating technology into school libraries has opened the door for collaboration between instructional technology specialists and school librarians. Yet, there is an issue where school librarians must assume this role as part of their responsibilities. These responsibilities add a new component to their role as librarian and teacher to students, but instructor to colleagues in all things technology. While many school media preparation programs have added courses to encompass this new role, these classes reflect the basic skills and lack the more profound meaning, just as the courses offered in special education are designed to be introductory, not fully encompassing the field due to credit and time constraints.

Despite studies, such as Johnston et al. (2012), and growing trends expanding the role of the school librarian, the termination of school library certification programs has been gaining support. Within the state of Pennsylvania, universities have been placing undergraduate certification programs in a moratorium. Within the last decade, at least three institutions of higher learning in Pennsylvania have stopped certifying school librarians. A potential cause lies in the ease of "certification" for school librarians in the state of Pennsylvania. Kachel (2018)

addresses this weakened state when acknowledging that the passing of a pre-determined exam, such as the Praxis II, allows "candidates to simply pass a "library media test" to obtain certification" (p.40). While the school media certification process at each university may differ in the number of credits required in special education, the "Praxis Librarian" will have the same issue unless they have earned certification in special education. The courses completed relating to special education in the content area would be minimal, just as the school media certification programs.

On-Going Professional Development for Librarians Relating to Special Education

The truth is that school librarians should be considered one of the most valuable assets in the school setting due to their background knowledge in information literacy and research. The value of the school librarian makes a direct connection to the literature on collaboration and their ability to have a direct impact on all learners, including those with disabilities, as previously discussed within this review of the literature. The gap arises in the ongoing training available to school librarians to ensure they can meet the needs of students who enter the school library. Subramaniam et al. (2013) state that libraries often design instruction and provide services for the average student. Yet, the growing number of students who do not fit the definition of average is on the rise. A trend within school libraries has been the use of library space for technologies, including assistive technology for students with disabilities (Blue & Pace, 2011; Johnston, 2015).

Over the past two decades, changes in special education law as it applies to inclusion have created a "ripple to school libraries as well" (Blue & Pace, 2011). School librarians have taken on a leadership role with technology in schools, yet this role remains fluid and additional research is needed on assistive technology (Hopkins, 2004; Johnston, 2015).

While studies focus on the collaboration of classroom and special education teachers (e.g., Da Fonte and Barton-Arwood, 2017), the literature found pertaining to libraries and special education acknowledges the need for further professional development opportunities for the school librarian in meeting the needs of students with disabilities (Abriza and Ahmed, 2017).

Summary

When looking at the efficacy of school librarians, there are many facets in which researchers can approach the topic. The gap in the literature most prevalent relates to teaching and interactions with students with disabilities.

As preservice coursework lacks special education content for school librarians, the need for further professional development exists yet remains untapped. The literature shows that school librarians are collaborative partners and strive to provide quality services and resources for all students. Still, again, the lack of support provided by teacher preparation programs and professional development opportunities from distracts is lacking.

Chapter 3: Methodology

Introduction

This chapter provides a detailed explanation of the methodology utilized in this study. Included will be the research model, hypothesis, justification for the instrumentation, and data analysis. In addition, this study will use a survey to investigate the self-efficacy of school librarians in providing instruction and services to students with disabilities.

Research Design

Quantitative analysis was used to answer the research questions developed for this study through data collection in the form of a survey. The choice for using quantitative measures for this study centered on the desire to determine perceptions and the use of a Likert scale allowed the researcher to obtain data and use robust analysis of the data. Also, the use of descriptive methods aligns with what the researcher wanted to study. Mat Roni et al. (2020) define descriptive quantitative research as "one that collects quantitative data at one point in time. Descriptive statistics allow a researcher to describe a particular situation through numerical data and to find trends with the research context "(p. 19).

The use of a survey design "provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell & Creswell, 2009). In this study, an existing survey instrument was used as the means to collect data. The survey consists of a series of closed-ended, Likert scale questions. Advantages of closed-end questions include ease and efficiency for both respondents and researchers (Neuman, 2003).

Participants and Setting

Participants invited to participate in this study were elementary school librarians located within Pennsylvania who subscribe to the Pennsylvania School Library Association (PSLA) listserv. Participants received an invitation to participate through electronic means as the PSLA listserv was the method selected for invitation to participate in the study. The sample size for this study was n = 35, which is appropriate for a homogenous population, which is comprised of similar members; therefore, the small sample size appropriately represents the population (Graziano and Raulin, 2013).

All participants met the criteria of working with students in grades K – 6 at the elementary level, although some participants may serve students in grades 7 – 8 in the middle school setting or 7 – 12 as they are employed as district librarians and serve all students. In terms of degrees, 34 participants hold a Master's degree with only one participant holding a Bachelor's degree. These elementary librarians have varying years of experience, with 48% of participants having ten or fewer years of experience with 52% having more than ten years of experience. Regarding training in Special Education, only 2 participants (less than 1%) hold a degree or certification relating to Special Education.

Instrumentation

For this study, a survey was selected as the instrument to obtain data. The survey, Teaching Students with Disabilities Efficacy Scale (TSDES), was created by Dawson and Scott (2013) and included 14 general questions (serving as constructs for the study) and five subscales:

- **Instruction**: questions pertain to curriculum, lesson planning, and skills
- **Professionalism**: questions pertaining to collaboration, consultations, and demonstrating positive behaviors

- **Teacher Support**: questions pertain to the classroom environment and building relationships
- **Classroom Management**: questions pertaining to the ability to deal with disruptive behaviors
- **Related Duties**: questions pertaining to advanced tasks when working with students with disabilities (transport, feeding, etc.)

Permission was granted by Dr. Scott (Appendix A) to use this survey (Appendix B). The research questions designed for this study address direct questions within the survey as indicated in Table 3.1.

Table 3.1

Research Questions

Research Questions	Survey Instrument (Subsection)
Research question 1. How do elementary librarians perceive their abilities to meet the needs of students with disabilities in their library classrooms?	Initial Questions 1-14
Research question 2. To what extent does instruction in the library setting influence self-efficacy of the school librarian when teaching students with disabilities?	Instruction Questions 1–5
Research question 3. To what extent does professionalism influence the self-efficacy of the school librarian when teaching students with disabilities?	Professionalism Questions 1-5
Research question 4. To what extent does teacher support influence the self-efficacy of the school librarian when teaching students with disabilities?	Teacher Support Questions 1 - 3

Research question 5. To what extent does classroom management influence the self-efficacy of the school librarian when teaching students with disabilities?	Classroom Management Questions 1-3
Research question 6. To what extent do related duties influence the self-efficacy of the school librarian when teaching students with disabilities?	Related Duties Questions 1-3

As this survey was previously developed, it has been validated through implementation. The instrument underwent a multistage approach that began with creating the mechanism, validating the tool, and making adjustments (Dawson and Scott, 2013). It was designed as a means to examine "the role of self-efficacy in teachers' beliefs about inclusion“ (Dawson & Scott, 2013, p.184). For this study, the survey was administered electronically through the use of *Qualtrics*, which allows for anonymous submissions.

A pilot TSDES was crafted based upon the foundational work of Tschannen-Moran and Woolfolk's (2001) Teachers' Sense of Self-Efficacy Scale (TSES). This pilot instrument was comprised of 11 questions that were categorized in four areas (classroom management, instructional strategies, impact on the student, and impact on the school/community) and was based upon a 9-point rating scale (Dawson & Scott, 2013). The survey has undergone field testing and refinement multiple times to provide the final instrument, which researchers have utilized in other studies (Johnson, 2015). In field testing, the TSDES was administered to 245 participants, and the revised instrument testing included 49 with a final n= 431 after removal of incomplete surveys (Dawson & Scott, 2013).

The existing survey was used in its current (quantitative) state. An acknowledgment is included regarding the term "classroom". Participants will acknowledge that "classroom" applies to the elementary library setting.

Data Collection Procedures

The TSDES survey, including demographic questions developed by the researcher, was administered via *Qualtrics* to the previously determined sample. The email invitation included a statement of consent (Appendix C) and a link to the survey, which was activated upon agreement to participate.

Variables

For this study, there were five reflective, or independent variables, identified as the following:

(1) Instruction

(2) Professionalism

(3) Teacher support

(4) Classroom management

(5) Related duties

The formative variable, also known as the higher-order construct, *tsd*, served as the dependent variable in this study.

1. *tsd* (self -efficacy of teaching students with disabilities)

Data Analysis

As quantitative methods were utilized in this study, there was a need to process each data set. First, survey data was anonymously collected within *Qualt*rics. The data collected via

Qualtrics was then exported into *SmartPLS 3*, a quantitative software designed to assist with data analysis (Ringle, Wende, & Becker, 2015). SmartPLS 3 is designed to interpret data using Partial-Least Squares Structural Equation Modeling (PLS-SEM).

For analysis of the data, PLS-SEM was selected based upon its ability to interpret results for small sample sizes. As the sample size for this study was small, PLS-SEM provided robust methods for analyzing data from smaller samples and was a strong choice for analysis. The analysis of small, exploratory samples can be found within the literature through previously conducted studies (Nicholls & Schimmel, 2012). For example, Jannoo et al. (2014) conducted a study comparing covariance-based SEM and PLS-SEM where they found "CB-SEM estimates were found to be inaccurate for small sample size while PLS-SEM could produce the path estimates" (p. 285). Hair et al. (2019) specifically address the solutions that PLS-SEM provides to small samples. These solutions occur through the use of an algorithm that “computes partial regression relationships in the measurement and structural models by using separate ordinary least squares regressions" (Hair et al., 2019, p. 5).

Dawson and Scott (2013) analyzed their data using covariance-based methods. PLS-SEM was selected as the source for data analysis as it provided a more robust type of analysis not yet utilized within the field of education. PLS-SEM is a newer method of measurement including both main effects (path coefficient, in which the independent variables come together to form a more robust dependent variable known as the higher-order) along with secondary effects in which each construct can be measured individually, yet their combination yields the higher order.

With PLS-SEM, the first step is to develop a path model, making connections between variables and constructs (Hair et al., 2014). Ringle and Sarstedt (2011) provide support for the

use of PLS-SEM in replacement of CB-SEM when "the research objective is prediction and theory development, then the appropriate model is PLS-SEM" (p. 140). Hair et al., 2011, describe the effectiveness of path modeling as "indeed a "silver bullet" for estimating causal models in many theoretical models and empirical data situations" (p. 139) when applied appropriately.

Dependent on the research questions posed and data available, some form of multivariate analysis must be utilized by the research (Hair et al., 2017). As this study included multiple independent variables, the use of a regression-based model was necessary. PLS-SEM is “a more “regression-based” approach that minimizes the residual variances of the endogenous constructs (Ringle & Sarstedt, 2011, p. 143). In addition, PLS alone allows for developing a higher-order construct (HOC), which will be discussed in chapter 4.

Despite the heavy use within the various threads of the business world, PLS-SEM is making itself known in other disciplines. Sample studies within education/higher education include a study conducted with a focus on the use of Google classroom (Al-Maroof & Al-Emran, 2018), another on quality assurance of students studying at the university level (Gora et al. (2019), and one on the use of Massive Open Online Courses (MOOCs) in higher education (Mohapatra & Mohanty, 2017). The use of PLS-SEM continues to increase, and the literature continues to publish in support.

The analysis will begin with descriptive statistics and will include inferential statistics, which could then be used to make inferences to the greater population based upon the results of this study (Salkind, 2008). When determining the types of statistic to use in the analysis, Martin and Bridgmon (2012) address five issues to assist in selecting a particular statistic:

(1) the focus on the interplay among variables

(2) the number of independent and dependent variables used in the analysis

(3) the scale of measurements of the dependent variables

(4) the number and relationships of participant groups being compared

(5) the extent that underlying assumptions of the statistic are met (p.67).

For this study, *Partial Least Squares Structural Equation Modeling* (PLS-SEM) was selected for a detailed analysis of the data. First, this analysis provides powerful means of evaluating multiple variables systematically through multivariate analysis (Hair, Hult, Ringle, & Sarstedt, 2017). This is relevant for the study conducted due to the many constructs within the survey instrument. Next, PLS-SEM is appropriate for small samples, which was the case in this study (Hair et al., 2018). Finally, the use of the listserv as the distribution of the survey link may have limited respondents depending on how many elementary librarians subscribe. The number of potential respondents is not strong due to the number of elementary school librarians in Pennsylvania who subscribe to the Pennsylvania School Librarians Association listserv.

The basis for PLS-SEM is composite factor analysis, indicating that the analysis is based on the expected variance in the data (Hair, Hult, Ringle, & Sarstedt, 2017; Matthews, Hari, & Matthews, 2018).

Reliability

Composite Reliability

The first criterion generally addressed is internal consistency reliability (Hair et al., 2017). This type of reliability relies on the Cronbach alpha, which "provides an estimate of the reliability based on the intercorrelations of the observed indicator variable" (Hair et al., 2017, p. 111). However, there are limitations to the Cronbach alpha, allowing a different type of reliability to take the stage – composite reliability (Hair et al., 2017).

Composite reliability “assumes a single-factor model with the variance of the factor fixed to unity” (Aimran et al., 2016, p. 3).

Validity

Convergent Validity

Convergent validity sets out to prove that two things identified as related, are in fact, related. Carlson and Herdman (2010) define it as “the extent to which two measures capture a common construct” (p.2). According to Hair et al. (2017), to determine convergent validity of reflective constructs, one must look at the outer loadings of the identified indicators as well as the average variance extracted (AVE). This is further explained below when describing discriminate validity.

Discriminant Validity

The definition of discriminate validity relates to differences or distinctness between constructs by empirical standards (Hair et al., 2017). Discriminant validity is directly related to the average variance (AVE) and the shared variance with other constructs (Aimran et al., 2016; Fornell & Larcker, 1981). In this study, discriminant validity will be addressed for both lower-order components as well as the higher-order construct, or tsd. According to Starstedt, Hair, Cheah, Becker, and Ringle (2019), "the higher-order construct as a whole must exhibit discriminant validity to all other constructs in the model" (p. 200).

Bootstrapping

PLS-SEM is a regression-based model yet is not designed to make assumptions as it relates to the distribution of data (Hair et al., 2017). PLS-SEM does not utilize *t* or *p* values to display significance but instead relies on the bootstrapping procedure, which yields bootstrap standard error (Hair et al., 2017).

The bootstrapping procedure allows the significance of formative indicators' coefficients to be tested. In addition to considering the significance of the indicator's weight, researchers should also evaluate an indicator's absolute importance for its construct" (Hair et al., 2011, p. 146). For this study, the bootstrapping measure was applied to variance (R^2) and beta coefficient (β) to randomly select a smaller sample size for PLS testing.

Assessment of Path Coefficients

Hair et al. (2017) clearly define path coefficients as having standardized values ranging between -1 and +1. Those coefficients close to +1 "represent strong positive relationships (and vice versa for negative values) that are usually statistically significant" (Hair et al., 2017, p. 195). Hair et al. (2017) go on to identify critical values for two-tailed tests –

Two-Tailed Tests

1.65 (significance level = 10%)

1.96 (significance level = 5%)

2.57 (significance level = 1%)

In this study, the path coefficients were directly aligned with the research questions 2 – 6, relating to instruction, professionalism, teacher support, classroom management, and related duties. Significance of each within the path model is further discussed in chapter 4.

Summary

This descriptive quantitative research survey explores the self-efficacy of elementary school librarians in their abilities in meeting the needs of students with disabilities. The survey instrument contained a nine-point Likert scale. Study participants included elementary school librarians located in western Pennsylvania, which were selected through a convenience sample. Statistical analyses will be conducted to determine how elementary school librarians perceive

their abilities to serve students with special needs in the library setting. Also, this researcher performed descriptive statistical analysis to measure each participant's self-efficacy beliefs and test the hypotheses of this study (Martin & Bridgemon, 2012).

Chapter 4: Findings

This chapter summarizes the administration of the TSDES survey, including the process followed by the researcher to share both findings and demographic data.

Introduction

The raw data was imported from *Qualtrics* into *SmartPLS* for analysis. The raw data was cleaned to remove any incomplete surveys. Demographic data were coded by the researcher from the results within *Qualtrics.* Raw data and demographic information can be found in Appendix D.

Description of the Sample

The desired sample consisted of participants currently working as elementary librarians in the state of Pennsylvania. All elementary librarians who subscribe to the PSLA listserv could participate. Of the participants to respond (n=35), all met the criteria established and were viable participants in the study.

Participant Demographics

In terms of age, 40% of respondents reported being over 50 and 31% falling between 40 and 49. The age of participants is an interesting point as this indicates many years of experience behind the answers provided by 71% of respondents. In relation to experience, 5% of respondents have more than 25 years of experience, with 19% having between 16 and 25 years of experience, with the most significant percentage of experience falling between 5 and 15 years, with 70% of respondents falling in this range. Five respondents have 1 to 5 years of experience.

When looking at education levels, 97% of respondents hold a Master's degree, which is above expectation as Pennsylvania only requires a Bachelor's degree with certification in school libraries. However, when questioned about holding a degree or teaching certificate in Special

Education, only two respondents, or 5%, have this background. Institutions in which participants earned their teaching certificate in Library Science showed that 60% of participants received their certification from an institution within the Pennsylvania State System of Higher Education and 95% of participants earned their certification at institutions within the state of Pennsylvania. A complete table of data can be found in Appendix D.

Analysis of the Data

Partial Least Squares – Structural Equation Model (PLS-SEM)

As PLS-SEM was previously described within the methodology of this study, we can discuss the results of the study in detail. The premise of PLS lies within the analysis of each manifest or independent variable as a stand-alone component. This study had five manifest variables: (a) instruction, (b) professionalism, (c) teacher support, (d) classroom management, and (e) related duties.

While each manifest variable demonstrated a positive ability in standing alone and supporting teacher efficacy, they were much more powerful when formed as a higher-order construct (HOC), meaning they merge into one theme. In this case, the overall teaching of students with disabilities, referred to as *tsd*, became the higher-order construct in this study. PLS-SEM defines this process as hierarchical components models which are comprised of four main types and have two elements: ”the higher-order component (HOC), which captures the more abstract higher-order entity and the lower order components (LOCs), which capture the subdivisions of the higher-order entity" (Hair et al., 2017, p. 281).

The results of this study fit within the Reflective – Formative HCM as the lower order components (the five manifest variables) have an impact on both the constructs, which are the questions within each subdivision of the survey instrument, and the HOC, the result of the five

manifest variables working together to form the HOC, which the researcher has labeled as *tsd*. This is visible in the Path Model (Figure 4.1), where the arrow directions demonstrate the impact of the factors on one another.

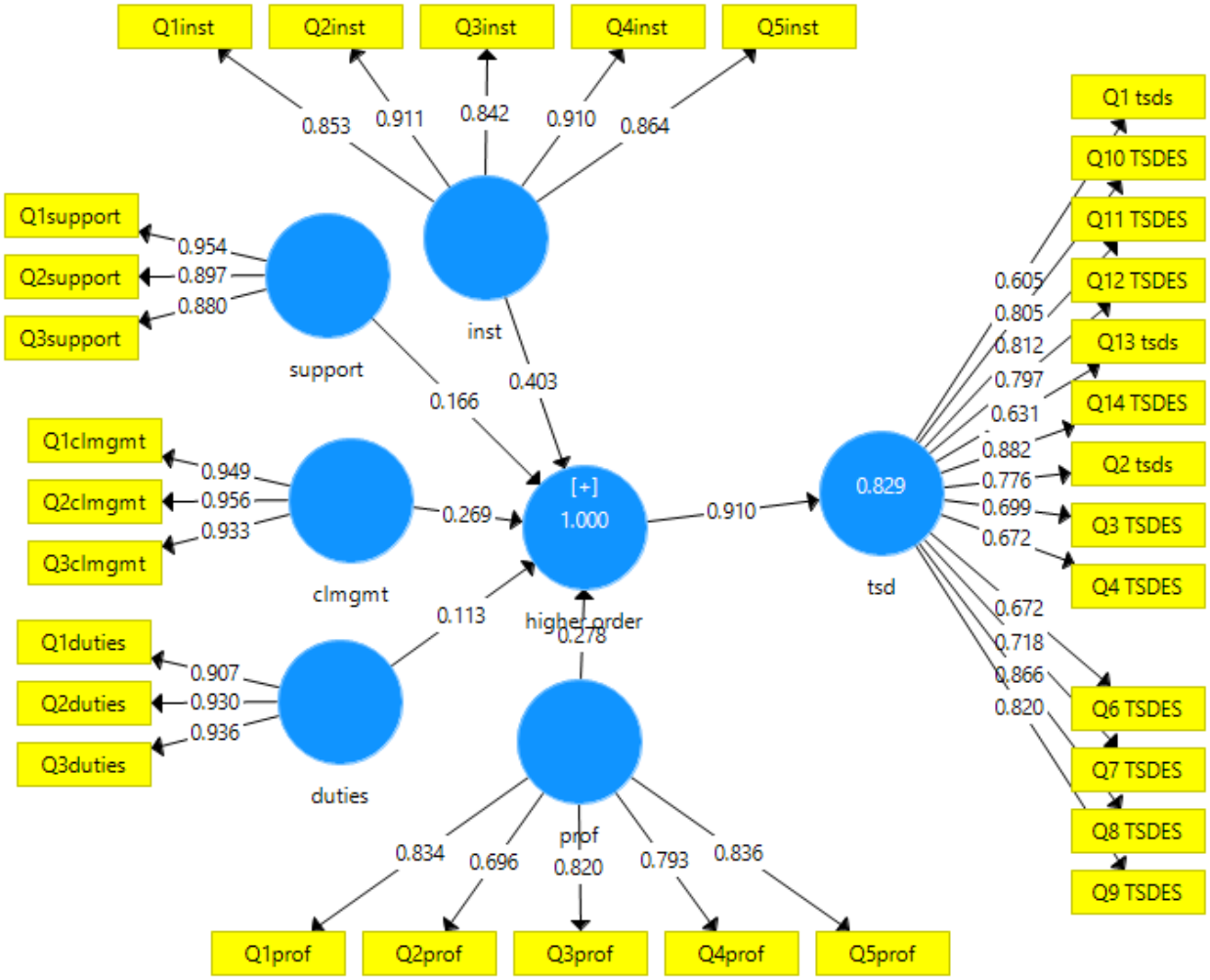
Reflective-Formative Measurement Model.

This research study included complex constructs, indicating a need for deeper analysis. Within PLS-SEM, the ability to use higher-order models, hierarchical component models (HCMs) "most often involve testing higher-order structures that contain two layers of constructs" (Hair et al., 2017, p. 281). In this study, the concept of self-efficacy was evaluated concerning teaching students with disabilities in contrast to other factors - instruction, professionalism, teacher support, classroom management, and related duties. These combined factors created the higher-order construct (HOC), indicating that the sum of the whole was greater than each independent factor or low order components (LOC). The HOC and LOC are the two components that comprise the HCM utilized in SEM application (Hair et al., 2017).

Findings from this study are presented using the Reflective-Formative HCM, which "indicates (formative) relationships between the LOCs and the HOC, and all first-order constructs are measured by reflective indicators" (Hair et al., 2017, p. 282). Support for the use of this HCM comes from Jarvis et al. (2003), who state, "both reflective and formative indicator measurement models possess surplus meaning beyond that captured by the specific items used to measure it" (p. 202). Additionally, Becker et al. (2012) indicate that "PLS-SEM requires the computation of construct scores for each latent variable in the path model" (p.365), as seen in Figure 4.1.

Figure 4.1

Path Model



The interchangeability of the manifest variables implies correlation. This interchangeability demonstrates reflective measures within the LOCs, yet teaching students with disabilities (HOC) is formative. To represent the HOC measurement model, the researcher followed the repeated indicator approach (Hair et al., 2017). HOC variance is often explained through the LOCs and an R^2 value of 1.0, or very close to 1.0 (Hair et al., 2017). As seen in Table 4.2, this is the case regarding HOC and tsd.

Table 4.1

Coefficient of Determination (R^2)

	R Square	R Square Adjusted
Higher Order	1.000	1.000
TSD	0.829	0.823

Note. TSD = Teaching students with disabilities

Within the framework of PLS, there are hierarchical construct models (HCMs) that "often involve testing higher-order structures that contain two layers of constructs" (Hair et al., 2017, p. 281). These layers consist of reflective indicators and their relationship as it relates to a higher-order construct. In this study, the low order components (instruction, professionalism, teacher support, classroom management, and duties) demonstrated strength as individual measures yet were stronger when combined to form the HOC, which is the overall teaching of students with disabilities.

Bootstrapping

Wetzels et al. (2009) explain that nonparametric bootstrapping is a procedure that is often used to “obtain standard error and calculate t statistics for inferential purposes” (p. 181). In Table 4.3, one can see that the t-values are greater than 2.229 and demonstrate significance at the .05 level. Starstedt et al. (2019) support the significance of ($p < 0.05$) within their study where they used bootstrapping with a subsample of 5,000 and showed that all relationships were significant.

Table 4.2

Bootstrapping: Reflective Model Measurement

	Standardized Beta (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
clmgmt->tsd	0.245	0.251	0.036	6.740***	0.000
duties->tsd	0.103	0.096	0.046	2.229***	0.026
inst -> tsd	0.367	0.370	0.034	10.741***	0.000
prof-> tsd	0.253	0.247	0.029	8.628***	0.000
support -> tsd	0.151	0.141	0.047	3.203***	0.001
ho -> tsd	0.910	0.918	0.021	42.787***	0.000
clmgmt -> ho	0.269	0.274	0.042	6.370***	0.000
duties -> ho	0.113	0.104	0.050	2.249 ***	0.025
inst -> ho	0.403	0.403	0.038	10.546***	0.000
prof -> ho	0.278	0.269	0.031	9.072***	0.000
support -> ho	0.166	0.153	0.051	3.237***	0.001

Note. clmgmt = classroom management; tsd = teaching students with disabilities (higher-order construct); inst = instruction; prof = professionalism; ho = higher order
Critical *t-values* for a two-tailed test are as follows: p= .10*, p= .05**, p=.01***

PLS-SEM Model Significance and Relevance

Support for PLS-SEM comes from various researchers, not just those involved in the development of the model. A compelling reason to use PLS-SEM is due to its complexity. Kock (2019) acknowledges that a model of this nature identifies challenges to the methods which would not come to light if using a less robust model. The use of higher-order constructs served this research well as there were five independent variables to be analyzed. PLS-SEM allowed for analysis of each individually yet evaluated them as a whole or as a higher-order construct.

Advocates for using higher-order constructs as found in PLS-SEM have "argued that they allow for more theoretical parsimony and reduce model complexity" (Becker et al., 2012, p. 360).

Relevance for PLS-SEM comes into play based upon the focus of the research. As this study viewed self-efficacy, the focus of analysis lies within theory development and explanation, making PLS-SEM the more appropriate model (Matthews et al., 2018).

Internal Consistency Reliability

In terms of evaluation, internal consistency reliability typically is addressed first (Hair et al., 2017). The most common measure of this type of reliability lies within the Cronbach's Alpha, which can be seen in Table 4.3. However, there are limitations with Cronbach's alpha, making the application of another type of measurement appropriate (Hair et al., 2017). This measure, known as composite reliability, "takes into account different outer loadings of the indicator variables…where the composite reliability varies between 0 and 1, with higher values indicating higher levels of reliability. The composite reliability for this study range between .897 and .963 (Table 4.3).

Table 4.3

Composite Reliability

	Cronbach's α	rho_A	Composite	AVE
Clmgmt	0.942	0.942	0.963	0.895
Duties	0.915	0.920	0.946	0.854
Instruction	0.924	0.926	0.943	0.768
Professionalism	0.857	0.869	0.897	0.636
Support	0.898	0.908	0.936	0.830
TSD	0.936	0.941	0.945	0.570

Note. Clmgmt = Classroom Management; TSD = Teaching Students with Disabilities
Composite validity is acceptable for values 0.70 and 0.90 (Hair et al., 2017).

Convergent Validity

Convergent validity is described as the degree to which a measure relates positively with alternative measures of the same construct (Hair et al., 2017). Hair et al. (2017) state that measurement of convergent validity consists of evaluating the outer loadings of the indicators and the average variance extracted (AVE).

Outer Loadings

According to Hair et al. (2014), "support for is provided for convergent validity when each item has outer loadings above 0.70 and when each construct's average variance extracted (AVE) is 0.50 or higher" p. 111).

Discriminant Validity

Discriminant validity is defined as the extent to which a construct differs from other constructs by empirical measures (Hair et al., 2017; ab Hamid et al., 2017). There is a direct need to address discriminant validity as it identifies multicollinearity issues, specifically when there are latent variables (ab Hamid et al., 2017). Due to the nature of discriminant validity, there is a need for "the researcher to establish the discriminant validity beforehand. This ensures that the latent constructs used for measuring the causal relationships under study are truly distinct from each other. In other words, they are different and not measuring the same thing that would arise the issue of multicollinearity" (ab Hamid et al., 2017, p.1).

When analyzing discriminant validity, the threshold value stands at 0.90. This threshold was assessed in the cross-loadings through the Fornell and Larker Criterion (Table 4.4). In Table 4.4, there are issues with classroom management (0.946), duties (0.924), and support (0.911) concerning teaching students with disabilities. Again, as the threshold value for discriminant

validity is 0.90, these three constructs hold issue when viewed independently. However, this is addressed by using the higher-order, eliminating the need to look at each construct in a silo and viewing each construct as part of a group with the HOC. The HOC, tsd (0.755), falls below the threshold.

Table 4.4

Fornell and Larker Criterion

	Clmgmt	Duties	Inst	Prof	Support	TSD
Clmgmt	**0.946**					
Duties	0.304	**0.924**				
Instruction	0.785	0.328	**0.876**			
Professionalism	0.570	0.201	0.735	**0.797**		
Support	0.346	0.114	0.500	0.689	**0.911**	
TSD	0.859	0.384	0.899	0.669	0.514	**0.755**

Note. Clmgmt = Classroom Management; TSD = Teaching Students with Disabilities
*Squared correlations with the diagonal representing the AVE

Initial research utilizing PLS solely relied on the Fornell-Larker model for determining discriminant validity. However, in 2015, Henseler et al. proposed using a new method, the heterotrait-monotrait ratio (HTMT). This method is "the ratio of the between-trait correlations to the within-trait correlations" (Hair et al., 2017, p. 118). Like the Fornell-Larker model, a score 0.90 represents “a lack of discriminant validity" (ab Hamid et al., 2017, p.3).

Table 4.5

HTMT Criterion

	Clmgmt	Duties	Inst	Prof	Support	TSD
Clmgmt						
Duties	0.322					
Instruction	0.837	0.351				
Professionalism	0.613	0.313	0.817			
Support	0.360	0.165	0.545	0.784		
TSD	0.916	0.416	0.960	0.708	0.542	

Note. Clmgmt = Classroom Management; TSD = Teaching Students with Disabilitie

Hierarchical Component Models

When conducting analysis, many models rely on "first-order" means, indicating that the latent variables are measurable and observable (Garson, 2016). These would be single-layer constructs, yet there are times when research calls for a deeper examination due to the involvedness of the constructs (Hair et al., 2017). These are known as higher-order models and revolve around two layers of constructs (Hair et al., 2017).

Coefficient of Determination (R^2)

Blindfolding (Q^2). The idea of blindfolding involves the omission of data points, specifically *d*th, and an estimation of the parameters with the remaining data occurs (Hair et al., 2017). Götz et al. (2010) explain that blindfolding uses the Q-square statistic as a means of providing data for a specific construct block despite hiding, or blindfolding, selected constructs. Furthermore, Tenehaus et al. (2003) note that "following Wold (1982), the cross-validation test of Stone and Geisser fit soft modeling like hand in glove. In PLS, path modeling statistics on each block and on each structural regression are available" (p. 174).

Hypotheses Acceptance or Rejection Examination

The researcher proposed the following null hypotheses, developed from the research questions posed within the study:

> **RQ1.** How do elementary librarians perceive their abilities to meet the needs of students with disabilities in their library classrooms?

To address RQ1, a detailed analysis of the mean of responses to all questions within the survey was conducted. The baseline was developed using the Likert scale for the instrument where a rating of 4 represented "some ability," and 5 was "greater than some ability." Using four as the baseline, 50% of participants had a mean score of 4 or higher, indicating an overall average of participants having "some ability" or higher. The findings from the survey indicate that there is an overall need for further training or professional development for elementary school librarians in the overall interactions with students with disabilities.

When evaluating RQs 2 – 6, the path model (Figure 4.1) found that each of these variables was significant, yet when they were calculated as one, it was in its strongest form. In evaluating each RQ individually, the beta, found on the path model, was used to determine a ranking of its impact on the overall self-efficacy of each participant. Additionally, an evaluation of the questions within each subsection is relevant as the questions may not directly relate to the expectations of a school librarian. For example, when evaluating related duties, these are expectations for a general classroom or special education teacher more so than an individualized teacher, such as the school librarian. Each of these subsections are evaluated as follows.

> **RQ2.** To what extent does instruction in the library setting influence self-efficacy of the school librarian when teaching students with disabilities?
>
> > **Ho:** ***Instruction*** has no impact on the elementary school librarian in terms of self-efficacy in meeting the needs of students with disabilities.

The questions relating instruction focused on adapting curriculum and using various strategies to reach students. The beta for instruction was .403, which was highest of the five dependent variables when evaluated individually. Due to the results, the null hypothesis was disproven. On average, one-half of participants ranked themselves with “great ability”, “strong ability”, or “very strong ability” for questions based upon instruction. It is clear that providing resources for school librarians focusing on instruction could be useful in improving confidence and further developing their ability in providing instruction to students with disabilities.

RQ3. To what extent does professionalism influence the self-efficacy of the school librarian when teaching students with disabilities?

Ho: ***Professionalism*** has no impact on the elementary school librarian in terms of self-efficacy in meeting the needs of students with disabilities.

Questions within professionalism related to collaborating with colleagues, serving as a positive role model for students, and praise and encouragement for students. The beta for professionalism was 0.278, the second highest within individual reporting. Again, the data rejects the null hypothesis.

These activities are common for school librarians, so confidence and experience within this category is expected. Results from the survey indicate that this is another area where professional development and training would prove to be beneficial to increase self-efficacy for school librarians.

RQ4. To what extent does teacher support influence the self-efficacy of the school librarian when teaching students with disabilities?

Ho: ***Teacher support*** has no impact on the elementary school librarian in terms of self-efficacy in meeting the needs of students with disabilities.

Questions relating to teacher support focused on creating a welcoming environment for students with disabilities and establishing relationships with students with disabilities. The beta

for support, 0.166, was low, indicating it did not have a significant impact on the overall self-efficacy of school librarians. This low ranking supports the null hypothesis.

The researcher finds this very surprising as collaborating with other professionals is beneficial and should be an expectation in meeting the needs of students with disabilities. In reviewing the mean data, this is the subsection in which almost all participants ranked themselves with greater ability or above, indicating this is an area in which school librarians are properly trained and/or professional development is provided.

> **RQ5.** To what extent does classroom management influence the self-efficacy of the school librarian when teaching students with disabilities?
>
> > **Ho:** ***Classroom management*** has no impact on the elementary school librarian in terms of self-efficacy in meeting the needs of students with disabilities.

Questions in this section focused on handling disruptive behaviors and managing classrooms that include students with disabilities. The beta for classroom management was the third lowest, 0.269. Based upon the data, the null hypothesis is rejected. This is an area that all teachers receive training and professional development opportunities are more common. Having the ability to manage behaviors impacts the overall self-efficacy of teachers and this is another area in which further training would prove beneficial for school librarians.

> **RQ6**. To what extent do related duties influence the self-efficacy of the school librarian when teaching students with disabilities?
>
> > **Ho:** ***Related duties*** have no impact on the elementary school librarian in terms of self-efficacy in meeting the needs of students with disabilities.

Questions were based on responsibilities lying outside of the library setting, such as transporting students with disabilities and administering medications to students with disabilities. As these are not expectations of the school librarian, these questions were outliers and the beta of

0.113 was not surprising. In evaluating the related duties as they relate to self-efficacy, these were the least impactful as many of the questions did not relate to the responsibilities of the school librarian. It was clear that questions relating to related duties directly impacted the mean as presented. These duties, many outside of the expectations of the elementary librarian, showed a much lower mean score, with abilities falling between 0 or no ability, and three, which is little ability. This will be further discussed within the limitations of this study.

Summary

Data collected were analyzed using a form of covariance-based analysis known as Partial Least Squares Structural Equation Modeling (PLS-SEM). This analysis allowed the researcher to evaluate each manifest variable (instruction, professionalism, teacher support, classroom management, and related duties) independently. However, this process also allows for analysis of the manifest variables as a whole, called the higher order construct (HOC). In this study, the HOC was labeled *tsd* and demonstrated that all 5 lower order constructs (LOCs) were significant when evaluated as one unit.

The use of PLS-SEM was an appropriate choice to the small sample size. PLS-SEM was designed to handle small and extremely large samples, making it a diverse tool that includes all necessary statistical evaluation including internal consistency reliability (Cronbach's alpha), convergent validity (Average Variance Extracted, AVE), and discriminant validity (Fornell and Larker Criterion).

Chapter 5: Discussion and Conclusion

Restatement of Purpose

This quantitative study was designed to contribute to the literature surrounding the self-efficacy of elementary school librarians and their ability to meet the needs of students with disabilities within their library classrooms. In the evaluation of teaching students with disabilities, five factors were identified as the reflective, independent variables: instruction, professional development, teacher support, classroom management, and related duties. Each of these variables were evaluated in relation to self-efficacy of teaching students with disabilities, directly addressing RQ1. Additionally, each of these variables was identified within RQs 2 – 6 and examined individually as well.

The survey instrument selected for this study, the Teaching Students with Disabilities Efficacy Scale (TSDES), focused on teaching students with disabilities in a general fashion (14 initial constructs) and followed with content-specific questions as they relate to the independent variables. These subcategories (instruction, classroom management, professionalism, teacher support, and related duties) were analyzed to determine their significance to the overarching theme of self-efficacy. As stated in chapter 4, instruction, professional development, and classroom management were identified as having the largest impact on self-efficacy, indicating that addressing these three factors through training or other skill development opportunities would be beneficial. This idea is further developed later within this chapter.

Previous research based upon the use of the same instrument focused on classroom teachers. This study contributes to the literature by exploring perceptions of elementary school librarians, a population not yet included in any studies using the TSDES instrument.

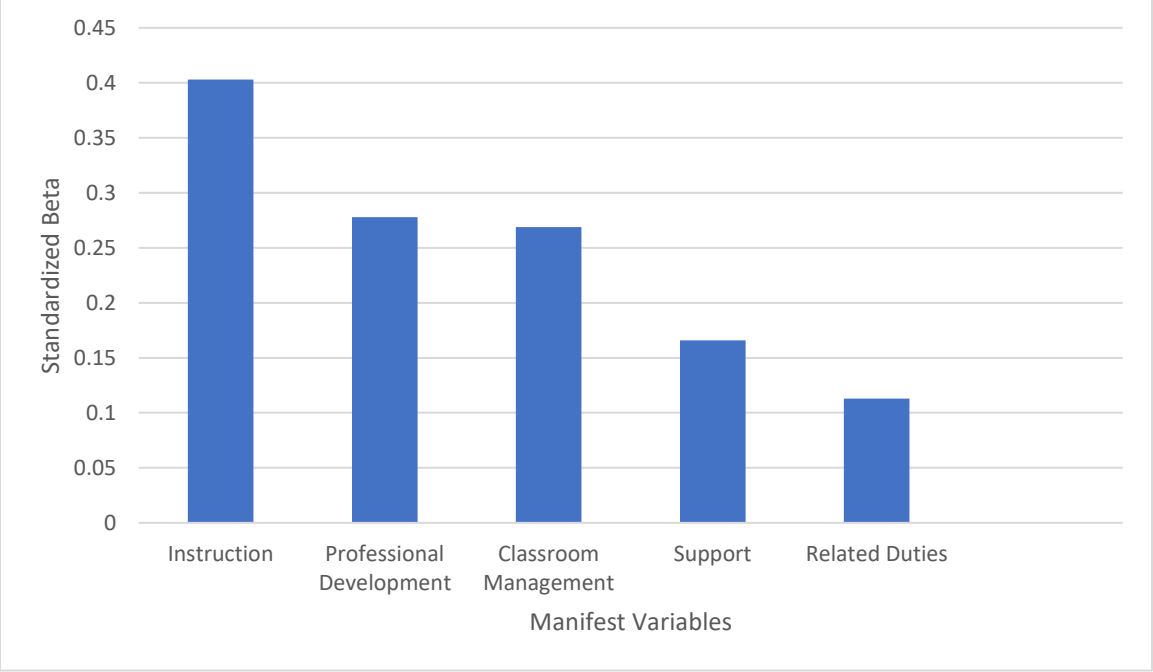
Discussion of Findings

As indicated previously, each independent variable was analyzed individually for its impact on teaching students with disabilities. However, combining these five factors proved more significant when analyzed as one unit, the higher-order construct of teaching students with disabilities as one sole measure.

The path model (Figure 4.1) indicated that standardized beta (the flow from the five constructs to the higher-order, *tsd*) showed that instruction (.403) had the most significant impact, with professionalism (.278) ranking second, classroom management (.269) as the third most significant, teacher support (.166) ranking fourth, and related duties (.113) rounding out the five constructs (Table 5.1).

Table 5.1

Significance of Independent Variables based upon Beta Analysis



Note. The higher standardized beta, the greater significance to teaching students with disabilities (*tsd*).

This indicates that providing additional training, starting with the variables having the greatest impact could potentially increase self-efficacy for elementary school librarians in meeting the needs of learners with disabilities.

Implications

Implications for Practice

Data analysis found that instruction, professionalism, and classroom management were the most substantial factors when looking at teaching students with disabilities when evaluating impact of the manifest variables. This indicates that when teaching students with disabilities, these variables have the highest impact. While the independent variables were stronger when evaluated as one, sole unit (HOC), there is evidence that addressing each of the five variables in an independent fashion holds value. Therefore, addressing how to further develop these skills relating to these areas is imperative and is addressed below.

Instruction.

Despite the variance in credentials across states for school librarians, the need to require a set number of classes focusing on special education and teaching students with disabilities should be explored. While special education has gained attention over the years and has impacted many states on the certification process, there is still a disconnect in offering these courses for school librarians. Subramaniam et al. (2013) note that many studies relating to school libraries and serving students with disabilities focus on collaboration with special education teachers. Yet, school library programs, or SLPs, have the potential to strengthen preservice teacher librarians. Supporting this idea, Hill (2012) addressed the idea for exposure to topics and issues relating to special education would be a useful component within library-based Master's

programs as well. Finding a way to provide coursework directly relating to working with students with disabilities should be further explored.

As improving school library programs curriculum would be one step, there are other ways to improve instruction as well. For example, the idea of Universal Design for Learning (UDL) stems from the concept of university design within the field of architecture. It is defined as "a research-based set of principles that provide a practical framework for using technology to maximize learning opportunities for all students" (Blue & Pace, 2011, p. 49). The concept of UDL is often associated with school libraries as school libraries are commonly viewed as the hub of technology within the school. Recently, UDL has been promoted and endorsed within the Every Student Succeeds Act (2015) as a tool that could be used with all learners to promote equality.

Due to the varying perceptions of school librarians, including but not limited to instructional partners and information specialists, the inclusion of UDL principles intermixed throughout the school curriculum has appeal, and the school librarian has a role in the process (Robinson, 2017). As UDL is designed to provide modifications as a means to support students with disabilities simply through strategic design, this is a practice that all educators should engage. Parker (2007) notes that as school librarians “teach students to become more information literate, the principles of UDL are supported” (p.4.). While the exploration of UDL in libraries has gained support, the concept is a clear opportunity for school librarians to continue to build confidence in providing instruction to students with disabilities.

Perhaps one of the most obvious opportunities to increase the self-efficacy of elementary school librarians as it relates to instruction is through collaboration with special educators. These professionals are trained and gain experience in providing quality instruction for learners with

disabilities. While collaboration was covered within the literature review portion of this study, it is relevant to mention it once again as it directly impacts the results of this study. Jones et al. (2010) address the importance of collaboration in the IEP process, which is one area in which school librarians can demonstrate growth. In participation in the IEP development process, the question of how to provide quality instruction for our learners with disabilities begins to see an answer form. This occurs through discussion with the Special Education Teachers and the classroom teachers, who may share what has been successful for them in the regular classroom, which could be transferred to the school library.

As school librarians have clearly stated their feelings of exclusion in the IEP process and lack of skills in teaching students with disabilities (Small, 2010; Adams, 2009; Jones & Zambone, 2008), the literature addresses means to assist in rectifying this empty feeling.

Professionalism.

Another way in which improvement could be made in self-confidence for school librarians lies within continuous personal growth. All teachers, including school librarians, must participate in a set number of hours for professional development. These professional development opportunities are an opportunity for teachers to gain additional knowledge in a range of topics relating to the education of all students. Many professional development opportunities relate to new trends in curriculum, technologies, and classroom issues. The idea that school specialists, such as Special Education Supervisors or other professionals from Special Education, be included within professional development opportunities is pertinent. There is also an opportunity for collaboration with classroom, special education, and specialized teachers, such as the school librarian.

While the idea of collaboration has been addressed, one example of collaboration that may not be as common lies within the school's main office. The building principal is another resource in building knowledge, especially related to our students with disabilities. While not all principals hold credentials in special education, they oversee the entire educational process within their assigned building. An overarching goal of every school administrator is to provide a quality education for all students, so they have a vested interest in ensuring this happens. Wakeman et al. (2006) state, "To be considered competent, principals should have a fundamental knowledge of special education as well as knowledge of current issues in special education" (p. 154). This supports the idea that school administrators themselves may be seeking professional development opportunities relating to meeting the needs of their students with disabilities.

A final thought concerning professional development relates to general teaching skills in the classroom or library. Interactions with students are critical, and the relationships we build with our students can profoundly impact them as individuals. Within the survey instrument used, there were two questions directly relating to being a positive role model for students and encouraging students to be good role models for their classmates. Engaging in professional development opportunities to help build upon best practices for creating a welcoming and accepting environment is part of the equation, which can build upon the skills taught in the coursework when seeking school library certification.

Classroom Management.

One of the most challenging tasks for all new teachers is classroom management and addressing disruptive behaviors. Until experience is gained, the information learned in teacher preparation programs and published resources on the topic is most helpful. For school librarians, the training on management of school behaviors can vary depending upon the track taken to the

school library. Despite varying backgrounds in managing classroom behaviors, professional training opportunities or certification programs are ways to address the issue. In addition, arming school librarians with additional resources to assist in developing best practices for handling disruptive behaviors helps build confidence and enables librarians to keep the momentum of instruction flowing.

Implications for the Future Research

There is an evident need to expand the research on school librarians and their work with students with disabilities. In the evaluation of the literature, it is challenging to find current research about students with disabilities and libraries. From what has been learned from this study, there is an opportunity for further exploration for schools libraries and special education in terms of curriculum and librarian preparation. A study focused specifically on school librarian preparation programs and further exploration of current practices relating to special education in both elementary and high school libraries are direct examples. Studies of this nature strive to contribute to the body of literature, providing opportunities for expansion and growth of the literature.

While the survey data revealed three main threads within the teaching field that can be addressed and changes made, the need to gather more data remains an area for exploration. Thus, this study provides a starting point or baseline data. Further studies can be conducted to continue building the literature and developing concrete plans and suggestions for improvements.

Limitations of the Study

The most prominent weakness of this study was the size of the sample. As a listserv was used as the source for securing participants, the researcher could not send reminder or follow-up emails prompting participation. Therefore, the sample was small and potentially lacking diversity

about district location and setting, such as rural versus urban or city settings. In future endeavors, I would consider other means of accessing school librarians as opposed to relying on a listserv. An example would be working with districts for direct contact via email.

Another potential limitation of the study lies within the sampling procedures. In survey research, there is always sampling error. Dillman et al. (2014) define sampling error as the measure in which a sample is limited in its ability to truly represent a specified population, as in this study, the perceptions of elementary school librarians. In relying on a listserv, there is a lack of knowledge about the demographics of a district whereas utilizing another means of administration of the survey could allow for a more targeted effort in ensuring a strong sample.

The third potential limitation to the study is based on the use of survey methods. As this is a self-reporting survey conducted anonymously, there is the chance that some of the data collected are skewed as participants may have been inclined to provide positive answers as opposed to genuinely answering questions in an authentic, honest manner. In conducting a mixed-method study, interviews could have served as a follow-up for clarification and expansion of answers collected from the survey.

Lastly, the survey itself was not designed for use with a unique population of teachers. Instead, Dawson & Scott (2013) designed the instrument with a mix of preservice and practicing teachers, none of which were identified as teaching special classes, such as art or library. A direct example can be seen in the section of the survey relating to duties. Questions within this section included practices relating to transporting students from wheelchairs, administering medication, and assisting students in using the restroom. These are duties not required for general classroom teachers, including school librarians. A new, direct survey developed solely

for special populations in a more general fashion would be beneficial. This is also an opportunity for future research as well.

Strengths of the Study

When looking at the strengths of the study, it is clear that this study has added to the body of knowledge relating to school librarians and their ability to meet the needs of students with disabilities. As highlighted in the literature review, there are few studies conducted on the self-efficacy of school librarians, specifically elementary school librarians, so this study is a first step in addressing this acknowledged gap. Also, as PLS-SEM was utilized as the means for data analysis, this is a new and robust way to yield quality findings. While PLS-SEM is heavily utilized in many fields, such as business, it has not been a selected method within education. Therefore, this study is one of the first to utilize this analysis and can be considered as a resource for the application of inferential statistical analysis in educational research moving forward.

Recommendations for Future Research

For future research, several options present themselves. First, this study could be expanded or replicated to include high school librarians. The rationale for focusing on elementary librarians is due to the differences seen in elementary libraries compared to the high school setting. In the elementary setting, lessons are often designed for each grade level and are scripted. This often includes designated time for instruction/stories and the remaining class time devoted to book selection. In the high school setting, there is more focus on collaboration with classroom teachers to include library resources into research-based assignments and projects. Research would be pertinent to see the similarities and differences of perceptions of these two varying types of librarians in their interactions with students with disabilities.

Moving beyond K-12 education, there is an opportunity for research within higher education and students who register with accommodations due to identified disabilities. Academic Librarians work with all students and having the needed skill set to assist college students who have been identified with needed accommodations if pertinent in today's academic setting.

Another aspect to consider for future research includes looking at self-efficacy through the qualitative lens or a mixed-methods study. While this quantitative study allowed the researcher to identify constructs that impact and address these as independent variables, there is value in obtaining detailed feedback via interviews or open-ended questions. While the survey approach assists in identifying overarching themes, interviews allow for direct comments with explanation, providing a much richer portrait of self-efficacy as it relates to various constructs. Continuing to add to the literature in the form of quantitative, qualitative, or mixed-method research will help paint a clearer picture of preparedness and potentially identify ways in which changes or opportunities could be presented to assist school librarians in building efficacy in teaching students with disabilities.

Conclusion

Despite limitations, this study holds value for elementary librarians and the fields of library science and special education. Part of the educational process is continually evaluating the ways in which we provide instruction and support to our students. This study provides data that can impact ways in which elementary librarians provide instruction, handle classroom management, and collaborate with colleagues. Lastly, this study sheds light on the need for more research on our students with disabilities and their interactions with specific teachers, such as the school librarian.

References

American Association of School Librarians (AASL). (2009). *Empowering learners: Guidelines for school library media programs*. American Library Association

Ab Hamid, M. R., Sami, W., & Sidek, M. M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*, 890(1), 1-6. doi :10.1088/1742-6596/890/1/012163

Abriza, A., & Ahmad, R. (2017). Systemic barriers: The challenges in the provision of inclusive school libraries in Malaysia. *Malaysian Journal of Library & Information Science*, *15*(2), 19-40.

Adams, R.H. (2009). Access for students with disabilities. *School Library Media Activities Monthly*, 25(10), 54.

Aimran, A.N., Aimran, A. N., Ahmad, S., Afthanorhan, A., & Awang, Z. (2017, May). The assessment of the performance of covariance-based structural equation modeling and partial least square path modeling. In *AIP Conference Proceedings*, 1842(1), 1-10. AIP Publishing LLC.

Amber-Mogran, S.R., Konrad, M., Hessler, T., Helton, M.R., & Telesman, A.O. (2019). In McLeskey, J., Maheady, L., Billingsley, B., Brownell, M.T., & Lewis, T.J. (eds). *High leverage practices for inclusive classrooms*. Routledge.

Ashton, P.T., & Webb, R.B. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* Longman.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191-215.

Bandura, A. (1986). *Social foundations of thought and action*. Prentice Hall.

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functions. *Educational Psychologist*, *28*(2), 117-148.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Freeman.

Bandura, A. (1999). A social cognitive theory of personality. In L. Pervin & O. John (Eds.), *Handbook of personality* (2nd ed.). Guilford Publications.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*(1), 1 -26,

Bandura, A. (2005). The evolution of social cognitive theory. In K.G. Smith & M.A. Hitt (Eds.). *Great minds in management*, 9-35. Oxford University Press.

Bateman, D.F., & Bateman, C.F. (2014). *A principal's guide to special education*. Council for Exceptional Children.

Barrett, S.B., Bradshaw, C.P., Lewis-Palmer, T. (2008). Maryland statewide PBIS initiative: Systems, evaluation, and next steps. *Journal of Positive Behavior Interventions*, *10*(2), 105-114.

Becker, J. M., Klein, K., & Wetzels, M. (2012). Hierarchical latent variable models in PLS-SEM: Guidelines for using reflective-formative type models. *Long range planning*, *45*(5-6), 359-394.

Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology: Vol.6.* Academic Press.

Blackburn, H., & Hays, L. (2014). Classroom management and the librarian. *Education Libraries*, *37*(1-2), 23-32.

Brownell, M.T., & Pajares, F. (1999). Teacher efficacy and perceived success in mainstreaming students with learning and behavior problems. *Teacher Education and Special Education*, *22*(3), 154-164.

Buell, M.J., Hallam, R., Game-McCormick, M., & Scheer, S. (1999). A survey of general and special education teachers' perceptions and inservice needs concerning conclusion. *International Journal of Disability, Development and Education*, *46*(2), 143-156.

Bunch, C. L. (2018). *Promoting Equitable Outcomes for Students with Disabilities* [Master's thesis, Ohio University]. https://etd.ohiolink.edu/apexprod/rws_etd/send_file/send?accession=ohiou152460365005734&disposition=inline

Caprara, G.V., Barbaranelli, C., Steca, P., & Malone, P.S. (2006). Teachers' self-efficacy beliefs as determinants of job satisfaction and students' academic achievement: A study at the school level. *Journal of School Psychology*, *44*, 473-490.

Carlson, K. D., & Herdman, A. O. (2012). Understanding the impact of convergent validity on research results. *Organizational Research Methods*, *15*(1), 17-32.

Carlson, R.A. (1997). *Experienced cognition*. Erlbaum.

Carroll, A. J. (2019). *Urban special educators' perceptions of preparedness and self-efficacy to teach students with learning disabilities* [Doctoral dissertation, Western Connecticut State University]. https://repository.wcsu.edu/cgi/viewcontent.cgi?article=1091&context=educationdis

Carson, P.G. (1929). The library and the school faculty. *Peabody Journal of Education, 7*(1), 13-17.

Carson, C. H. (1993). The development of a scale to measure self-efficacy of school library media specialists. *School Library Media Quarterly*, *21*(3), 165-170.

Chow, J.C., & Gilmour, A.F. (2016). Designing and implementing group contingencies in the classroom: A teacher's guide. *Teaching Exceptional Children*, *48*(3), 137-143.

Crockett, J.B., & Kauffman, J.M. (1999). *The least restrictive environment: Its origins and interpretations in special education*. Lawrence Erlbaum Associates.

Da Fonte, M. A., & Barton-Arwood, S. M. (2017). Collaboration of general and special education teachers: Perspectives and strategies. *Intervention in School and Clinic*, *53*(2), 99-106.

Dawson, H., & Scott, L. (2013). Teaching students with disabilities efficacy scale: Development and validation. *Inclusion*, *1*(3), 181-196.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method*. John Wiley & Sons.

Dunn, L. M. (1968). Special education for the mildly retarded—Is much of it justifiable? *Exceptional children*, *35*(1), 5-22.

Eccleston, S.T. (2010). Successful collaboration: Four essential traits of effective special education specialists. *Journal of the International Association of Special Education*, *11*(1), 40-47.

Evans, E. D., & Tribble, M. (1986). Perceived teaching problems, self-efficacy, and commitment to teaching among preservice teachers. *The Journal of Educational Research*, *80*(2), 81-85.

Every Student Succeeds Act. (2015). Public Law 114-95, 114 U.S.C.

Finch, P. (2018). Student centered: PBIS success: The heart connection leads to greater learning. *Principal Leadership*, *18*(6), 10-11.

Florian, L. (2015). Conceptualising inclusive pedagogy: The inclusive pedagogical approach in action. in JM Deppeler, T Loreman, R Smith & L Florian (eds), *Inclusive Pedagogy Across the Curriculum*, 7, 11-24. https://doi.org/10.1108/S1479-363620150000007001

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.

Francis, B. H., & Lance, K. C. (2011). The impact of library media specialists on students and how it is valued by administrators and teachers: Findings from the latest studies in Colorado and Idaho. *TechTrends*, *55*(4), 63-70.

Franklin, R.E. (2011). Before the bell rings: The importance of preparing pre-service school librarians to serve students with special needs. *Knowledge Quest*, *39*(3), 59-63.

Gardner, P. (2014). *Strategies and resources for teaching and learning in inclusive classrooms*. Routledge.

Gibson, S., & Dembo, M.H. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology*, *76*(4), 569-582.

Gilligan, K. J. (2019). *An Investigation of Preservice Teachers' Attitudes towards Inclusive Education* [Doctoral dissertation, Aurora University]. https://www.proquest.com/openview/eea33ef1ee70b2774623c9bf98c1dc51/1?pq-origsite=gscholar&cbl=18750&diss=y

Goddard, R.D., Hoy, W.K., & Hoy, A.W. (2000). Collective teacher efficacy: Its meaning, measure, and impact on student achievement. *American Educational Research Journal*, *37*(2), 479-507.

Gordon, S. (2006). Making sense of the inclusion debate under IDEA. *Brigham Young University Education and Law Journal, 2006(1)*, 189 - 224.

Götz, O., Liehr-Gobbers, K., & Krafft, M. (2010). Evaluation of structural equation models using the partial least squares (PLS) approach. In *Handbook of partial least squares* (pp. 691-711). Springer.

Granott, N. (2005). Scaffolding dynamically toward change: Previous and new perspectives. *New Ideas in Psychology*, *23*(3), 140-151.

Graziano, A.M., & Raulin, M.L. (2013). *Research methods: A process of inquiry*. (8th ed.). Pearson.

Greenberg, J., Putnam, H., & Walsh, K. (2014). *Training our future teachers: Classroom management.* National Council on Teacher Quality.

Guskey, T.R., & Jung, L.A. (2009). Grading and reporting in a standards-based environment: Implications for students with special needs. *Theory into Practice*, *48*(1), 53-62.

Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2017*). A primer on partial least squares structural equation model (PLS- SEM)*. (2nd ed.). Sage Publications.

Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, *19*(2), 139-152.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*.

Hamman, D., Lechtenberger, D., Griffin-Shirey, N., & Zhou, L. (2013). Beyond exposure to collaboration: Preparing general education teacher candidates for inclusive practice. *The Teacher Educator*, *48*, 244-256.

Hammond, H., & Ingalls, L. (2003). Teachers' attitudes toward inclusion: Survey results from elementary school teachers in three southwestern rural school districts. *Rural Special Education Quarterly, 22*(2), 24-30.

Hill, R.F. (2012). Strengths and Opportunities: School librarians serving students with special needs in central New York state. *School Library Research, 15*, 1-14.

Hill, K.K., Bicer, A., & Capraro, R.M. (2017). Effect of teachers' professional development from *Mathforward* on students' math achievement. *International Journal of Research in Education and Science, 3*(1), 67-74.

Hopkins, J. (2004). School library accessibility: The role of assistive technology. *Teacher Librarian, 31*(3), 15 – 18.

Hopkins, J. (2005). Extending inclusive learning: Library and special education collaboration. *Library Media Connection*, March, 17 – 19.

Hunt, R. D., & Luetkehans, L. (2013). The insider: School librarians as part of a blended professional learning community for student teacher development in technology integration. *School Libraries Worldwide, 19*(1).

IDEA (2017). *Sec. 300.39 Special education*. Retrieved July 7, 2020 from https://sites.ed.gov/idea/regs/b/a/300.39.

Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of consumer research*, *30*(2), 199-218.

Johnson, B.G. (2015). *An investigation of the self-efficacy beliefs of teachers serving students with disabilities* [Doctoral dissertation, University of Florida]. Retrieved from ProQuest. (2017-19720-223).

Johnston, M.P. (2015). Blurred lines: The school librarian and the instructional technology specialist. *Tech Trends, 59*(3), 17 – 26.

Johnston, M.P., Huber, J., Dupuis, J., O'Hair, D., O'Hair, M.J., & Sandidge, R. (2012). Revitalization of the school library media specialist certification program at the University of Kentucky: Preparing 21st century school library technology leaders. *Journal of Education for Library and Information Science, 53*(3), 200 -207.

Jones, J.L., & Zambone, A.M. (2008). *The power of the media specialist to improve academic achievement and strengthen at-risk students*. Linworth.

Jones, J.L., Zambone, A.M., Canter, L.L.S., & Voytecki, K. (2010). The forgotten partners in special education: Teacher-librarians. *Teacher Librarian, 37*(4), 65-69.

Jurkowski, O.L. (2006). The library as a support system for students. *Intervention in School and Clinic*, *42*(2), 78-83.

Kachel, D. (2018). A perfect storm: National, state, and local factors impact the school librarian evolution. *School Library Journal*, 38-39.

Kock, N. (2019). From composites to factors: Bridging the gap between PLS and covariance-based structural equation modeling. *Information Systems Journal, 29*(3), 674-706.

Krueger, K.S., & Stefanich, G.P. (2011). The school librarian as an agent of scientific inquiry for students with disabilities. *Knowledge Quest, 39*(3), 41-47.

Kul, U., & Celik, S. (2017). Exploration of pre-service teachers' beliefs in relation to mathematics teaching activities in classroom-based setting. *International Journal of Research in Education and Science, 3*(1), 245-257.

Lee, F.L.M., Tracey, D., Barker, K., Fan, J.C.M., & Yeung, A.S. (2014). What predicts teachers' acceptance of students with special educational needs in kindergarten? *Australian Journal of Educational & Developmental Psychology*, *14*, 60-70.

Lo, P., & Chiu, D. K. (2015). Enhanced and changing roles of school librarians under the digital age. *New Library World*.

Lombardo-Graves, M.M. (2017). Building resiliency: Introducing the pre-service special educator efficacy scale. *Issues in Educational Research, 27*(4), 803-821.

Lotter, C.R., Thompson, S., Dickenson, T.S., Smiley, W.F., Blue, G., & Rea, M. (2018). The impact of a practice-teaching professional development model on teachers' inquiry instruction and inquiry efficacy beliefs. *International Journal of Science and Mathematics Education*, *16*, 255-273.

Luszczynska, A., & Schwarzer, R. (2005). Social cognitive theory. In M. Conner & P. Norman (Eds.), *Predicting health behaviour* (2nd ed., pp.127-169). McGraw-Hill.

Mathwick, C., Malhotra, N., & Rigdon, E. (2001). Experiential value: Conceptualization, measurement, and application in the catalog and internet shopping environment. *Journal of Retailing, 77*, 39–54.

Matthews, L., Hair, J. O. E., & Matthews, R. (2018). PLS-SEM: The holy grail for advanced analysis. *Marketing Management Journal*, *28*(1), 1-13.

McLeskey, J., & Waldron, N. L. (2011). Educational programs for elementary students with learning disabilities: Can they be both effective and inclusive?. *Learning Disabilities Research & Practice*, *26*(1), 48-57.

McLeskey, J., Waldrom, J., Spooner, F., & Algozzine, B. (Eds). (2014). *Handbook of effective inclusive schools: Research and practice.* Routledge.

Merriam – Webster (2020). *Pedagogy*. Retrieved from http://www.merriam-webster.com/dictionary/pedagogy.

Montgomery, A. (2014). Teachers' self-efficacy, sentiments, attitudes, and concerns about the inclusion of students with developmental disabilities. *Exceptionality Education International*, 24(1), 18-32.

Mulholland, M., & O'Connor, U. (2016). Collaborative classroom practice for inclusion: Perspectives of classroom teachers and learning support/resource teachers. *International Journal of Inclusive education*, *20*(10), 1070-1083.

Oberg, D. (2001). Demonstrating that school libraries improve student achievement. *Access*, 15(1), 15-17.

Orlich, D.C., Harder, R.J., Callahan, R.C., Trevisan, M.S., & Brown, A.H. (2004). *Teaching strategies: A guide to effective instruction.* (7th ed.). Houghton Mifflin Company.

Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of educational research*, *66*(4), 543-578.

Peker, M., & Erol, R. (2018). Investigation of the teacher self-efficacy beliefs of math teachers. *Malaysian Online Journal of Educational Sciences*, *6*(4), 1-11.

Pentland, C. (2018). Classroom management in the school library. *Teacher Librarian*, *45*(4), 34-37.

Perez, L. (2010). The role of school librarians in promoting the use of educational technologies. *Teacher Librarian*, *38*(1), 72.

Perrault, A.M. (2011). Reaching all learners: Understanding and leveraging points of intersection for school librarians and special education teachers. *School Library Media Research*, 14.

Perry, D. (2019). *Open Wide the Door: Catholic Teacher Efficacy for Inclusive Education* [Doctoral dissertation, Saint Mary's College of California].

Powell, J.J.W. (2011). *Barrier to inclusion: Special Education in the United States and Germany*. Taylor and Francis.

Robinson, D. E. (2017). Universal Design for learning and school libraries: A logical partnership. *Knowledge Quest*, *46*(1), 56-61.

Rosch, D.M, & Anthony, M.D. (2012). Leadership pedagogy: Putting theory into practice. *New Directions for Student Services*, *140*, 37 – 51.

Rotter, J.B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*(1), 1 – 28.

Ruppar, A.L, Neeper, L.S., & Dalsen, J. (2016). Special education teachers' perceptions of preparedness to teach students with severe disabilities. *Research and Practice for Persons with Severe Disabilities*, *41*(4), 273-286.

Sarstedt, M., Hair Jr, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian Marketing Journal (AMJ)*, *27*(3), 197-211.

Schumm, J., & Vaughn, S. (1995). Getting ready for inclusion: Is the stage set? *Learning Disabilities Research and Practice, 10*(3), 169-179.

Scott, T. M. (2017). Training classroom management with preservice special education teachers: Special education challenges in a general education world. *Teacher Education and Special Education*, *40*(2), 97-101.

Sensoy, O., & Yildirim, H.I. (2018). Impact of technological pedagogical content knowledge based education application on prospective teachers' self-efficacy believe levels toward science education. *Journal of Education and Training Studies*, *6*(10), 29-38.

Shillingford, S., & Karlin, N. (2014). Preservice teachers' self-efficacy and knowledge of emotional and behavioural disorders. *Emotional and Behavioral Difficulties*, *19*(2), 176-194.

Shoulders, T.L., & Krei, M.S. (2016). Rural secondary educators' perceptions of their efficacy in the inclusive classroom. *Rural Special Education Quarterly*, *35*(1), 23 – 30.

Siegel, L.M. (2017). *The complete IEP guide: How to advocate for your special ed child.* Nolo.

Small, R.V., & Snyder, J. (2009). The impact of New York's School Libraries on student achievement and motivation: Phase II – in-depth study. *School Library Media Research*, *12*, n.p.

Small, R. V., Shanahan, K. A., & Stasak, M. (2010). The Impact of New York's school libraries on student achievement and motivation: Phase III. *School Library Media Research*, *13*, n.p.

Sood, S., & Agnihotri, K. (2015). Status of inclusion of children with special needs and effective teaching in inclusive classroom. *Learning Community-An International Journal of Educational and Social Development*, *6*(1), 101-110.

Strong, J. E. (2014). *Preparing teachers of students with Autism Spectrum Disorders: Evidence-based practices and teacher self-efficacy*. Virginia Commonwealth University. https://scholarscompass.vcu.edu/cgi/viewcontent.cgi?article=4685&context=etd

Subramaniam, M., Oxley, R., & Kodama, C. (2013). School librarians as ambassadors of inclusive information access for students with disabilities. *School Library Research,16*, 1-33.

Sultan, A.A., Henson, Jr., H., & Fadde, P.J. (2018). Pre-service elementary teachers' scientific literacy and self-efficacy in teaching science. *IAFOR Journal of Education*, *6*(1), 25-41.

Sydney, A. (2010). *A handbook for inclusion managers: Steering your school towards inclusion.* Routledge.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., & Lauro, C. (2005). PLS path modeling. *Computational Statistics & Data \Analysis*, *48*(1), 159-205.

Tschannen-Moran, M., Hoy, A.W., & Hoy, W.K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research*, *68*(2), 202-248.

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

US Department of Education. (2020). *History of IDEA.* IDEA: Individuals with Disabilities Act. Retrieved May 18, 2020 from https://sites.ed.gov/idea/about-idea/#IDEA-History

Wade, S.E. (Ed.). (2000). *Inclusive education: A casebook and reading for prospective and practicing teachers.* Lawrence Erlbaum Associates.

Wakeman, S. Y., Browder, D. M., Flowers, C., & Ahlgrim-Delzell, L. (2006). Principals' knowledge of fundamental and current issues in special education. *NASSP Bulletin*, *90*(2), 153-174.

Weber, K. J. (2017). *School librarians' self-efficacy in the multiple literacies: a mixed-methods study.* Northern Illinois University. http://commons.lib.niu.edu/bitstream/handle/10843/21552/Weber_niu_0162D_12994.pdf?sequence=1&isAllowed=y

Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly*, 177-195.

Wine, L. D. (2016). School librarians as technology leaders: An evolution in practice. *Journal of Education for Library and Information Science*, *57*(2), 207-220.

Wold, H., 1982. Soft modeling: the basic design and some extensions. In: Loreskog, K.G., & Wold, H. (Eds.), *Systems under Indirect Observation, Part 2*. North-Holland, pp. 1–54.

Zee, M., de Jong, P.F., & Koomen, H.M.Y. (2016). Teachers' self-efficacy in relation to individual students with a variety of social-emotional behaviors: A multilevel investigation. *Journal of Educational Psychology*, *108*(7), 1013-1027.

Zhang, D., Wang, Q., Stegall, J., Losinki, M., & Katsiyannis, A. (2018). The construction and initial validation of the Student Teachers' Efficacy Scale for Teaching Students with Disabilities. *Remedial and Special Education*, 1-14. DOI:10.1177/0741932516686059

Zimmerman, B.F. (2002). *The best fit: Creating the right LRE for your students with special needs.* LRP.

Zimmerman, B. J. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, *25*(1), 82-91.

Appendix A

Correspondence for Use of Instrument

RE: Request for Instrument - TSDES

From: Laron A Scott [mailto:scottla2@vcu.edu]
Sent: Wednesday, November 08, 2017 10:49 AM
To: Jordan, Jessica D.
Subject: Re: Request for Instrument - TSDES

Good morning Jessica,

Feel free to use the scale. It is embedded in the article.

Thanks.

LaRon A. Scott, Ed.D., B.C.S.E.
Assistant Professor of Special Education
Director, COVE & Online Programs
School of Education www.soe.vcu.edu
Virginia Commonwealth University
1015 W. Main Street
Oliver Hall, Room 4072
Richmond, VA 23284-2020
(804) 828-6556 (804) 225-3554 (fax)

On Wed, Nov 8, 2017 at 10:47 AM, Jordan, Jessica D. <jessica.jordan@sru.edu> wrote:
Greetings, Dr. Scott ~
My name is Jessica Jordan and I am a doctoral student at Slippery Rock University where I am seeking a degree in Special Education (Ed.D). I am interested in determining self-efficacy of school librarians relating to students with special needs. I read your piece completed with Dr. Dawson and would like to obtain the *Teaching Students with Disabilities Efficacy Scale* (TSDES) for possible use in completion of my dissertation. I am early in the planning stages of my work but I would be happy to share my results as necessary. I greatly appreciate your consideration and look forward to hearing from you.

Best,
Jessica Jordan

Jessica Jordan
Education/Assessment Librarian
228 Bailey Library
104 Central Loop
Slippery Rock University
Slippery Rock, PA 16057
jessica.jordan@sru.edu

Appendix B

TSDES Survey Instrument

The instrument used for this study, Teaching Students with Disabilities Efficacy Scale (TSDES), was developed by Dawson and Scott (2013) from Virginia Commonwealth University. Permission for use was granted via email correspondence from Dr. Scott. The instrument, a survey, is a Likert, 9-point scale. A response of "1" or "2" indicated that the participant believed they could do nothing to enhance the given situation, or had no strategies available to them. A response of "3" or "4" indicated that the participant believed they could do **very little** to enhance or deal with the given situation, perhaps knowing 1 or 2 strategies. A response of "5" or "6" indicated that the individual believed they **had some ability** to handle the situation, perhaps 3 or 4 strategies. A response of "7" or "8" indicated the participant **believed they had a greater ability** to enhance the given situation. Finally, a response of "9" indicated a strong belief in the participant's ability to handle the given situation.

There are fourteen initial questions asking "How much can you do" type questions -

1. How much can you do to adjust lessons to meet the needs of all students in your class.
2. How much can you do to create an environment that is open and welcoming for every student, including those with disabilities?
3. How much can you do to encourage all students to accept those with disabilities in your classroom?
4. How much can you do to manage a classroom when your students range from learning disabled to gifted?
5. How much can you do to change society's view of individuals with disabilities?

6. How much can you do to establish meaningful relationships with your students with disabilities?
7. How much can you do to de-escalate a situation involving a student with disabilities who is getting out of control in your class?
8. How much can you do to motivate a student in your class who has a disability, regardless of how uncomfortable you may be?
9. How much can you do to control a situation in which a student with Autism is having a major temper tantrum in your class?
10. How much can you do to promote acceptance of students with disabilities in the community?
11. How much can you to do ensure students with disabilities are held to the same academic and behavioral standards as other students?
12. How much can you do to facilitate group learning in your class (e.g., ask students with and without disabilities to work together on projects and lessons)?
13. How much can you do to teach a student who is motivated to learn but struggles because of his/her disability?
14. How much can you do to utilize different teaching strategies when your teaching isn't as effective as you had hoped?

Following the initial implementation to build reliability and validity (Crombach's α =.913), the following components were included:

Instruction (α =.880)

1. I can adapt the curriculum to help meet the needs of a student with disabilities in my classroom.

2. I can adjust the curriculum to meet the needs of high-achieving students and low-achieving students simultaneously.
3. I can use a wide variety of strategies for teaching the curriculum to enhance understanding for all of my students, especially those with disabilities.
4. I can adjust my lesson plans to meet the needs of all of my students, regardless of their ability level.
5. I can break down a skill into its component parts to facilitate learning for students with disabilities.

Professionalism (α =.843)

1. I can be an effective team member and work collaboratively with other teachers, paraprofessionals, and administrators to help my students with disabilities reach their goals.
2. I can model positive behavior for all students with or without disabilities.
3. I can consult with an intervention specialist or other specialist when I need help, without harming my own morale.
4. I can give consistent praise for students with disabilities, regardless of how small or slow the progress is.
5. I can encourage students in my class to be good role models for students with disabilities.

Teacher Support (α =.846)

1. I can effectively encourage all of my students to accept those with disabilities in my classroom.

2. I can create an environment that is open and welcoming for students with disabilities in my classroom.
3. I can establish meaningful relationships with my students with disabilities. 8.07

Classroom Management (α =.882)

1. I can effectively deal with disruptive behaviors in the classroom, such as tantrums.
2. I can remain in control of a situation that involves a major temper tantrum in my classroom.
3. I can manage a classroom that includes students with disabilities.

Related Duties (α = .779)

1. I can effectively transport students with physical disabilities from vehicles to wheelchairs, from wheelchairs to desks, and to the restroom without becoming intimidated.
2. I can administer medication to students with disabilities if I am asked to and have the proper certifications.
3. I can assist students with disabilities with daily tasks such as restroom use and feeding.

Appendix C

Statement of Consent

EMAIL INVITATION TO PARTICPATE

Greetings. My name is Jessica Jordan and I am a doctoral student at Slippery Rock University. I am working with Dr. Michelle Amodei, Principal Investigator, as I am currently seeking my doctoral degree within the field of Special Education. A degree requirement includes the completion of a dissertation. The research for this final project involves perceptions of elementary librarians (working in rural, western Pennsylvania) and their abilities in meeting the needs of their students with disabilities. I am seeking participants to complete 33 questions based upon a Likert-scale with six open-ended follow-up questions. Completion of this survey will take approximately 15 – 20 minutes. Your participation in this survey will assist me in presenting data highlighting thoughts and feelings of elementary librarians on their abilities to serve students with disabilities in the library setting. A goal of this research is to provide preliminary findings and offer a means of replication in an effort to build the base for research of this nature. Participation will be completely anonymous and participants will be entered to into a drawing for one of two Amazon gift cards (value of $50.00). Please consider participating in this meaningful research endeavor.

Consent to Participate

By using the link below and entering the survey, you are agreeing to participate in the study described above.

https://sru.co1.qualtrics.com/jfe/form/SV_6JP6ODggW7sW017

Appendix D

Table 4.1

Demographics of Participants
(n= 35)

Category	Number of Participants
Age Range	
21 – 29	2
30 – 39	8
40 – 49	11
50+	14
Years of Experience	
1 – 5	5
6 - 10	12
11 – 15	9
16 – 20	1
21 – 25	6
25+	2
Highest Level of Education	
Bachelor's degree	1
Master's degree	34
Degree or Cert. in SPED	
Yes	2
No	33
Library degree awarded within PASSHE	
Yes	21
No	14

Note. SPED = Special Education; PASSHE = Pennsylvania State System of Higher Education.