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Walden University
2017

Abstract

Teachers' Perceptions About Addressing Literacy for Students With Vision Impairment

by

Samantha C. Washington

MS, University of Central Missouri, 2008

BS, University of Central Missouri, 2004

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Walden University

November 2017

Abstract

Regular education teachers are sometimes at a disadvantage when required to instruct learners with a visual impairment or other special needs in the classroom. A problem exists with reduced support and training for regular education teachers responsible for meeting literacy needs of students with visual impairment. The purpose of this qualitative interpretive case study was to explore regular education instructors' perceptions of their self-efficacy and ability to modify literature for learners with visual impairment. The research questions targeted this purpose, specifically in the areas of training opportunities and technology use. The social cognitive theory, a model emphasizing learning occurring through social contexts and observations, was used as the conceptual framework for this study. Data were collected from 1-on-1 interviews with 10 volunteer regular education teachers teaching students at the elementary level. The resulting data were analyzed via color-coding transcripts, NVivo running word-frequency queries, and manual review of each transcript. The results revealed the participants did not have training, awareness for the literacy needs of students with visual impairment, or knowledge of the different types of technology used to access and create literacy materials. Although they lacked training and current knowledge of providing literacy instruction, the participants expressed confidence in their ability to research, collaborate, and gain the knowledge needed to effectively do so. The implications for positive social change include implementation of training and/or an education cycle for more efficient instruction when serving a student with visual impairment in the local school district. Efficient instruction can facilitate an improvement in the academic performance of students with visual impairment.

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Dedication

This dissertation is dedicated first and foremost to my daughter, Amiah. Her heart of determination, kindness, and joy inspire me on a daily basis. Amiah, you have tremendously been a bright shining star in my life since you were born. I will always advocate for you, be your number one fan, and be there for you. Know that your future is bright and you can accomplish that which you set out to do. I love you baby girl.

I would also like to dedicate this achievement to my nephews and niece: Issiah, Alexander, Jeremiah, Richard, Shamar, Elijah, Jesiah, and Tiana. Don't ever let anyone tell you that you cannot or you will not because you can and you will. I hope that each of you will reach the goals you set out to accomplish. I believe in all of you, and I'm cheering you on every step of the way.

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To God be the glory! Without Him I don't know how I would have been able to persevere through this program. I hope I can use this degree in the capacity He sees fit for me to. Thank you for making this a reality. Through Christ all things are possible.

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Chapter 1: Introduction to the Study

Literacy is a basic educational skill for functioning in society, and possibly the first skill a child is expected to learn. It is a natural intuition and moral principle for a parent, educator, and others in society to want children to be literate (Savaiano, Compton, & Hatton, 2014). There are many individuals with visual impairment (those who are blind or have low vision) who want to know how to read braille, although they have not been taught. Accessing large print or auditory information may become a cumbersome task once learners who are visually impaired exit the academic setting (Wiazowski, 2014). Many regular education teachers and administrators lack training for including braille into their lessons and providing appropriate modifications for the presentation of enlarged materials (Rogers, 2007). In this study, I sought out the perceptions of regular education classroom teachers regarding their ability to make braille or enlarged print accessible for learners with visual impairment. Using a qualitative case study design, I conducted interviews to pinpoint some existing barriers these teachers perceive about using braille or enlarged print to meet the literacy needs of their students with visual impairment.

The initial populations supported by private or church-supported institutions in special education were individuals who were deaf, blind, and intellectually disabled (Kreimeyer, 2011; Winzer, 2007). Children and individuals with visual impairment are part of a diverse population within the special education setting. Special education began prior to the 18th century in the Unites States (Osborne Jr. & Russo, 2014; Winzer, 2007, 2014); however, today approximately 90% of individuals who are blind and visually

impaired are not learning to read braille, and learners who are visually impaired struggle to have appropriate access to print materials (Douglas, McLinden, McCall, et al., 2011; National Federation of the Blind Jernigan Institute, 2009). Reduced literacy skills adversely affect this population's ability to be independent and to obtain employment. In an effort to remedy the identified problem, professional development opportunities could be developed by school districts for regular education teachers serving students who are visually impaired. The professional development opportunities would help these teachers learn how to incorporate braille and enlarged print as they teach (Gilson, 2014; Trief & Rosenblum, 2016). Exploring the perceptions of regular education teachers' experiences may increase the use of these tools in this setting and increase the public school's ability to meet the needs of learners with visual impairment. I will provide more elaboration on the learning needs of learners who are visually impaired and perceptions of regular education teachers' self-efficacy in Chapter 2.

I will present the problem, purpose of the study, research questions, and conceptual framework in the beginning of this chapter. In the next sections of this chapter I will discuss the nature of the study; define key terms/concepts; and present assumptions, delimitations, and limitations. Finally, the chapter will end with an explanation of the significance of the research study.

Background

With the push to increase the use of braille for students of visual impairment, there is a need to conduct more research to fill the gaps in practice and literature on this topic. A variety of visual impairments exist within the population of students with visual

impairments (Nye, 2014). Students with visual impairments are often educated in the public school setting (Kamei-Hannan, Holbrook, & Ricci, 2012), which requires educators to be knowledgeable of their needs. Not only do these needs include common academic curriculum, the expanded core curriculum (ECC) also needs to be purposefully taught to these learners (Lohmeier, Blankenship, & Hatlen, 2009). There is minimal research regarding best practices and teaching strategies for these learners in the regular education classroom, resulting in a gap in practice.

There is also a lack of research surrounding the collaboration of regular education teachers and service providers specializing in servicing children with visual impairment. The extant research shows a shortage of teachers of the visually impaired (TVI), and this will impact how much training and collaboration regular education teachers may receive regarding literacy, ECC, and technology (Kim, Lee, & Skellenger, 2012; Leigh & Barclay, 2000). The lack of collaboration can adversely affect teachers' self-efficacy. The literature I reviewed also lacked consistency in its findings regarding teachers having strong self-efficacy and/or lower self-efficacy when instructing students with special needs (see Ajuwon, Sarraj, Griffin-Shirley, Lechtenberger, & Zhou, 2015; Bickford & Falco, 2012). This study was necessary to add to the literature and to facilitate a better understanding of the gap in practice. The gap includes supports, resources, and training regular education teachers may need when working with students with visual impairment.

Problem Statement

In the United States, a problem exists around the lack of adequate support and resources for regular education teachers instructing students with visual impairment that

results in reduced access to adequate literacy materials for these learners (Douglas, McLinden, McCall, et al., 2011; Roe, Rogers, Donaldson, Gordon, & Meager, 2014). The lack of support, fortification, and/or training may adversely impact a regular education teacher's self-efficacy or performance in the classroom (Ajuwon et al., 2015). Self-efficacy is defined as the extent an individual believes he or she can organize or execute a task effectively and efficiently (Bandura, 1997; Dellinger, Bobbett, Olivier, & Ellett, 2008; Zhang, Wang, Losinski, & Katsiyannis, 2014). I examined the self-efficacy of regular education teachers regarding facilitating access to braille and enlarged print in this research study.

Preparing and presenting curriculum appropriately for learners who are sighted and learners who are visually impaired simultaneously can be a cumbersome task. According to the Missouri Annual Blind/Visually Impaired Literacy Study (Missouri Department of Elementary and Secondary Education, Division of Special Education, 2014), 92% of learners who are blind and visually impaired attended public or private schools throughout the state. The issue of reduced professional support and resources for regular education teachers is documented in the literature (Roe et al., 2014). The lack of support regular education teachers receive subsequently affects how learners with visual impairment access braille or enlarged print materials in the classroom.

Although reading is a significant part of education (Dimitrova-Radojichikj, 2015), a decline in braille literacy has been in existence for several years across the United States (Linn, 2003; Wiazowski, 2014). According to the National Federation of the Blind Jernigan Institute (2009), approximately 10% of children who are blind or demonstrate

visual impairments are learning to read braille. Linn (2003) also reported a small percentage of those under the age of 18 are able to read braille. This indicates an immense amount (almost 90%) of children with visual impairment or blindness are not learning to read braille. Through exploration of the literature, many have concluded braille instruction is beneficial to the blind and visually impaired population (Bano, Naqvi, Hashmi, Raza, & Shaikh, 2011; Linn, 2003; Smith & Rosenblum, 2013). Furthermore, access to visual information in the regular education setting (e.g., enlarged print and educational videos) has been a barrier for children with visual impairment (Douglas, McLinden, McCall, et al., 2011).

To address these issues, I analyzed the perceptions of regular education classroom teachers serving students with visual impairment through a qualitative case study. There is a gap in literature surrounding the support regular education teachers may need to meet the literacy needs of students with visual impairment. There are some studies analyzing teaching strategies TVIs may use, though minimal research studies were found regarding regular education teachers' experience with teaching this population.

Purpose of the Study

The purpose of this qualitative case study was to identify regular education teachers' perceptions of meeting the literacy needs of students with visual impairment using braille or enlarged print. In this study, I obtained data regarding whether regular education teachers are provided training to effectively include students' primary and/or secondary learning media into their classroom. Data were collected through one-on-one interviews to allow the participants to express their thoughts and experiences in their own

words (see Lodico, Spaulding, & Voegtle, 2010). Identifying potential barriers may facilitate understanding of the literacy needs of students with visual impairment and possible factors contributing to their reduced access to literacy. The results of this study were presented to stakeholders in an effort to facilitate a more efficient working and learning environment.

A second purpose for this qualitative study was to obtain information about additional support regular education teachers may need to help meet the literacy needs of students with visual impairment. The literacy needs of students with visual impairment that I focused on in this study were the use of enlarged print and braille. Collaboration between special education providers and regular education teachers and para-educators may be lacking (Lieberman & Conroy, 2013; McDonnel et al., 2014). Gaining insight into regular education teachers' perceptions of their experience regarding the amount of support they received will allow for appropriate changes to be made in collaborative efforts between educators. As these improve, learning environments will also improve access to literacy, whether braille or enlarged print, for students with visual impairment.

The third purpose of this research study was to add to the literature regarding teachers' self-efficacy and effectively modifying print materials with braille or enlarged print for students with visual impairment. Adding to literature has several benefits. Considering the blind and visually impaired population is scarce compared to other disabilities (Roe et al., 2014), there are also gaps in research pertaining to this population. Additionally, research regarding inclusion practices of regular education teachers is lacking (Joy & Murphy, 2012). The results of this research study increased stakeholders'

knowledge about the topic and filled gaps in literature (see Creswell, 2012). My ultimate goal with this research study was to improve the practice of educators and facilitate effective access to literacy for learners who are visually impaired.

Research Questions

The overarching research question for this research study was: How do elementary regular education teachers perceive their own preparedness to meet the literacy needs of students with visual impairment? The two subquestions were:

1. How do regular education teachers perceive the professional development and training opportunities prepared them to incorporate braille and enlarged print into their classroom?

2. How do regular education teachers perceive the advancement in technology has affected presentation of literacy materials in the classroom setting?

Conceptual Framework

In this qualitative case study, I focused on teachers' perceptions of their self-efficacy regarding presenting curriculum in braille or enlarged print. Bandura's (1986) social cognitive theory served as the foundational framework. The social cognitive theory involves an individual's beliefs about their own capabilities to perform, engage in, or complete a task (Bandura, 1986, 1997). How a person perceives their skills also relates to how they are able to analyze and modify their performance (Bandura, 1997; Dellinger et al., 2008). The social cognitive theory was appropriate because I explored teachers' perceptions of their ability to present and modify curriculum appropriately to students with visual impairment in this study. How a student perceives himself or herself can have

an impact on their academic success (Dellinger et al., 2008). Positive self-efficacy results in a positive learning experience and reduced self-efficacy can have adverse effects on the learning experience (Dellinger et al., 2008). I used the social cognitive theory to guide my analysis in order to gain a better understanding of how the participants viewed their experiences and performance.

Nature of the Study

Delving into regular education teacher's perceptions of their experiences with incorporating enlarged print and braille allowed for an in-depth understanding of their practices with learners who are visually impaired in their classroom. Regular education teachers who have not received training prior to having a student with visual impairment or blindness are more reluctant than those with training to include these students in the regular education classroom (Ajuwon et al., 2015); some teachers may be unaware they demonstrate this reluctance (Carrington & Robinson, 2006). The first step in overcoming reluctance and being effective with inclusion is developing a positive attitude for working with students with special needs (Amr, Al-Natour, Al-Abdallat, & Alkhamra, 2016). To address these issues, I developed research questions focusing on professional development, effects of increased technology, and modification of classroom print materials to guide this research study.

Classroom teachers often need support from various colleagues or to go through training themselves in order to appropriately present curriculum to learners who are blind and visually impaired (Ajuwon et al., 2015). The results of this study were intended to provide information on how to improve teachers' perceptions of including students with

visual impairment in their classrooms and how to best incorporate the student's learning media. As assistive technology improves and changes from year to year, the manner in which learners who are visually impaired access the various types of learning media also changes. With proper training and support, technology may be an effective avenue for regular education teachers to seek out when attempting to incorporate braille or enlarged print into the classroom.

I collected data on regular education teachers' perceptions of their experiences through one-on-one interviews with them. The interviews were then transcribed, analyzed through the use of NVivo, and lastly a thorough manual review of their content. The data analysis consisted of coding the content and identifying themes. I will discuss each of these aspects in more detail in Chapter 3.

Operational Definitions

I will define terms related to visual impairment or blindness used throughout this document and research study in this section. Readers should keep the following definitions in mind when reading this research study in order to have a clear understanding of the information presented:

Blind/visually impaired: In this study, the term visually impaired was used to encompass both visually impaired and blind definitions. According to the Missouri Department of Elementary and Secondary Education (2015), a student is eligible for special education services under the eligibility visual impairment/blindness when they have met three criterions:

- A comprehensive evaluation report from an optometrist/ophthalmologist confirming a visual impairment or progressive vision loss.

- When a student's visual acuity is between 20/70 and 20/200 in the better eye after correction they are considered visually impaired. When a student's visual acuity is greater than 20/200 in the better eye after correction or when the visual field is less than 20 degrees a student is considered blind. A student is considered to have a progressive vision loss when an optometrist/ophthalmologist has provided a diagnosis of a progressive vision loss.

- The documentation of the adverse effects the visual impairment or blindness has on the student's educational performance.

Cortical vision impairment: A visual impairment that has resulted from damage to the brain (Natarajan, 2014).

Differentiated instruction: Instruction presented through use of varied strategies that best meet the individual needs of the student (Ernest, Heckaman, Thompson, Hull, & Carter, 2011; Tomlinson, 2000).

Expanded core curriculum (ECC): A set of skills and areas students with visual impairment or blindness benefit from direct instruction in (Sapp & Hatlen, 2010; Wolffe & Kelly, 2011).

Learning media: The learning medium (e.g., braille, print, enlarged print, auditory) in which a student is able to access print materials and the curriculum (Jones, Smith, Hensley-Maloney, & Gansle, 2015).

Optic nerve hypoplasia: A nonprogressive impairment characterized by underdeveloped optic nerves either bilaterally or unilaterally (Kaur, Jain, Sodhi, Rastogi, & Kamlesh, 2013).

Orientation and mobility: The ability to independently orient and navigate safely during travel (Geruschat, Bittner, & Dagnelie, 2012).

Regular education: An inclusive academic setting in which students with special needs are included with nondisabled peers facilitating improved academic participation and opportunities (Joy & Murphy, 2012; Lamport, Graves, & Ward, 2012).

Regular education teacher: A teacher who completed a traditional university-based teacher preparation program and instructs in regular education academic environments, yet does not exhibit certification in special education (Feng & Sass, 2013).

Retinopathy of prematurity: A vision impairment associated with low birth weight, prematurity, oxygen deprivation, and other various factors (Kapoor et al., 2014).

Self-efficacy: The extent an individual believes he or she can be successful when organizing and completing a task (Bandura, 1997).

Teacher of the visually impaired: An individual who has training and certification in instructing students with visual impairment or blindness in the areas of braille, necessary assistive technology, and low vision aids (Douglas, McLinden, Farrell, et al., 2011).

Assumptions, Scope, Delimitations, and Limitations,

Assumptions

I made a few assumptions regarding this research study. First, I assumed the participants had taught a student identified as visually impaired. I also assumed that each of the participants was honest with information pertaining to their experiences with students who are visually impaired. A third assumption was that the students the participants instruct had visual impairment as their primary eligibility for the special education program and required assistive technology. Lastly, it was assumed the participants shared an interest for improving pedagogy in the regular education classroom.

Scope and Delimitations

The scope of this study was on gaining in-depth information about regular education teachers' perceptions of their self-efficacy to meet the literacy needs of students with visual impairment. The participants of this study were from a rural elementary school setting. I used a qualitative case study to collect and analyze data. Using a qualitative methodology and a case study design allowed me to conduct interviews (see Lodico et al., 2010) and gain perceptions of regular education teachers involved with modifying print curriculum.

The first delimitation of this study was the use of regular education teachers at the elementary level as participants. Learning to read is a main skill being targeted at the elementary level; therefore, teachers in this setting had experiences teaching literacy skills to children with visual impairment or blindness. Limiting the participants to the elementary level resulted in the lack of obtaining regular education teachers' perceptions at the secondary level. Another delimitation was evaluating the perception of regular

education teachers' self- efficacy. This allowed me to gain knowledge on the teachers' perceptions but did not provide information regarding how their perceptions impact the classroom setting or the learning outcomes for students with visual impairments. Data regarding academic achievement for students with visual impairment in the participants' classroom were not collected, which limited how the results can be applied in the academic setting. Considering the population of students with visual impairment was low, obtaining a sufficient amount of participants was difficult with this stipulation.

Limitations

I took a number of limitations into consideration during this study. The population of students with visual impairment was scarce. The scarcity results in a limited number of regular education teachers who had experience with students with visual impairment. Having a reduced number of participants reduces the ability to generalize the results to a greater population of regular education teachers (Bogdan & Biklen, 2007). Additionally, obtaining participants from one location limits the generalization of the results to other settings. The participants of this study were obtained from one school district.

Another limitation was the varied types of learning media needs the participants had encountered. One teacher may have encountered a student requiring large print, while another teacher may have had experience incorporating braille into the classroom. Some of the teachers may not have had the opportunity to teach a student with visual impairment. In spite of these limitations, I strived to obtain an appropriate number of participants and substantial data to provide valuable information to stakeholders.

Significance of the Study

One aspect of significance this study demonstrates is adding to the literature on this topic. There is a reduced amount of research regarding regular education teachers' perceptions of their experiences with braille and enlarged print literacy for students who are visually impaired. The results of this research study may also inspire future research studies focusing on the needs of learners who are visually impaired in the regular education setting.

Gaining insight on regular education teachers' perceptions is significant because many students with visual impairment are being included and educated in the public school setting (Kamei-Hannan et al., 2012), and students with disabilities commonly perform lower than their regular education peers in the academic setting (Aron & Loprest, 2012). In the local setting, the results of this study can be used to address any barriers regular education teachers may encounter when making braille and enlarged print accessible for learners who are visually impaired. The results of this study significantly impacted the regular education teachers in the local setting and facilitated a more effective learning environment for students who are visually impaired.

Accessing visual information and print literacy in the classroom has been found to be a barrier students in the visually impaired population encounter (Douglas, McLinden, Farrell, et al., 2011). The results of this study, and possible future studies, could lead to a professional development program for the teachers involved with students within this target population. The professional development program could potentially be implemented in similar school districts in need of improving support for regular education teachers responsible for instructing students who are visually impaired.

Increasing the self-efficacy of regular education teachers will potentially increase the academic performance of students with visual impairment. As individuals within the visually impaired population obtain effective instruction, positive social change occurs as their potential to become productive citizens increases.

Summary

The lack of training regular education teachers demonstrate for making braille and enlarged print materials accessible for learners who are visually impaired may reduce their self-efficacy in this area. In this study, I conducted interviews to provide thorough data regarding instructors' perceptions of their readiness skills and effectiveness for meeting the literacy needs of students within this population. Obtaining the in-depth perceptions of regular education teachers will promote an understanding of how to support regular education teachers as they strive to meet the literacy needs of learners who are visually impaired.

Chapter 2 of this study will contain a review of literature on topics surrounding learners who are visually impaired in the academic setting and regular education teachers' perceptions of learners with special needs. In Chapter 3, I will discuss the qualitative research design, research methodology, setting, and data collection procedures. In Chapter 4, I will review how the data were analyzed, provide the results, and identify themes in the data. Chapter 5 will include a further discussion of the results as well as my recommendations and the implications.

Chapter 2: Review of Literature

Introduction

In the United States, a problem exists regarding the lack of adequate support, training, and resources provided to regular education teachers responsible for instructing students who are visually impaired attending public schools. The purpose of this study was to identify regular education teachers' perceptions of meeting the literacy needs of students with visual impairment using braille or enlarged print, obtain information about additional supports regular education teachers may need to help them meet the literacy needs of students with visual impairment, and to add to the literature regarding teachers' self-efficacy and effectively modifying print materials with braille and enlarged print.

There were several characteristics of teachers' perceptions and literacy learning for the visually impaired that I reviewed in the literature. In this chapter, the first item I will discuss is the common visual diagnoses seen in children. This discussion of visual diagnoses commonly exhibited by students with visual impairment will allow readers to have a better understanding of the types of conditions regular education teachers are experiencing. Next, the adverse educational impact visual impairment may have on learners will be outlined. Following the adverse educational effects, I will present information regarding types of learning media. Collaborative efforts between TVIs and regular education teachers and literature about teachers' self-efficacy will be presented last. In this chapter, I will discuss and provide a review of literature in the areas of strategy, the conceptual framework, self-efficacy of educators, and key variables and concepts specific to this study.

Literature Search Strategy

When searching for literature on these topics, I used the Walden University Library and the University of Central Missouri Library. Each of these libraries provided access to research databases such as Education Research Complete, ProQuest, EBSCO Host, and Education Resource Information Center. While searching these databases, I used the following keyword search terms or phrases: *teachers' self-efficacy, learning media for learners who are visually impaired, special education, collaboration, inclusion,* and *visual impairments in education*. This literature review also included information from peer-reviewed journal articles, government documents on special education, Missouri state documents on special education, credible websites, books, and previous dissertations.

Conceptual Framework

The conceptual framework I used in this research study was the social cognitive theory. The social cognitive theory is a model that emphasizes learning occurs through social contexts and observations (Bandura, 1986). One way people learn from their experiences is through self-reflection during professional development opportunities and in practice (Clarke & Hollingsworth, 2002). In this research study, I facilitated the self-reflection of regular education teachers regarding their literacy instructional experiences with students who are visually impaired. An individual's self-reflection about social experiences and how they perceive that experience can have an impact on the environment and their performance (Wang, Hall, & Rahimi, 2015). Therefore, a regular education teacher's perceptions of their experiences with learners who are visually

impaired can impact the presentation of their instruction for these learners. As a result, the classroom environment has an impact on a student's motivation and academic performance (Patrick, Kaplan, & Ryan, 2011). How an individual perceives their ability to carry out a task in various experiences is known as self-efficacy (Bandura, 1997; Dellinger et al., 2008). The social cognitive theory is essentially where self-efficacy originated. I will discuss self-efficacy more in-depth in the next subsection.

Self-Efficacy of Regular Education Teachers

Every teacher does a self-analysis of their skills and their performance throughout their teaching career. One determining predictor of motivation to continue with a task is a person's self-efficacy (Wang, Hall, et al., 2015). In this study, I focused on regular education teachers' self-efficacy in regard to their ability to meet the literacy needs of learners who are visually impaired. Self-efficacy is the belief a teacher has about their ability to carry out a task or provide instruction within their classroom setting in order to produce an outcome (Bandura, 1997; Dellinger et al., 2008). Two determining factors of teacher performance are teacher qualifications and teachers themselves (Guo, Connor, Yang, Roehrig, & Morrison, 2012); therefore, teachers were the focus of this study.

According to Dellinger et al. (2008), self-efficacy and teacher efficacy have been used interchangeably in literature. These authors warned against confusing the two. Teacher efficacy is defined as a "teachers' beliefs in their abilities to affect student performance" (Dellinger et al., 2008, p. 753). Cheung (2006) reported teacher efficacy is related to a teacher's acceptance of responsibility for students' academic and behavioral performance. Bandura (1997) clarified that self-efficacy is an individual's perception of

their ability to demonstrate skills in order to produce a certain outcome. Student performance was not a primary concern of mine in this research study, and therefore, teachers' self-efficacy was targeted and will be the term referenced throughout this research study.

The higher a person's self-efficacy, the more likely they are to attain challenging goals and effectively evaluate their ability to achieve the goal set (Wang, Hall, et al., 2015). A teacher's self-efficacy in the classroom is important when working with learners with special needs because these students will need more attention, more encouragement, and someone to instruct them a little more uniquely (Buli-Holmberg & Jeyaprathaban, 2016; Ekins, Savolainen, & Engelbrecht, 2016). Furthermore, a teacher's attitude has an effect on his or her decision making and how they respond to different situations in their classroom (Amr et al., 2016). High self-efficacy for regular education teachers instructing students with special needs has been found to be positively related to years of experience, working with younger students with special needs, and training on inclusive education and policies (Ekins et al., 2016). Teachers' with high self-efficacy have been found to demonstrate characteristics similar to this (Chacon, 2005; Gibson & Dembo, 1984; Holzberger, Philipp, & Kunter, 2014). According to a research study conducted by Ajuwon et al. (2015), college students in university regular education teaching programs were hesitant to teach students with visual impairment when compared to seasoned regular education teachers with training. Although Amr et al. (2016) found that teachers' attitudes regarding the inclusion of students with special needs varied according the disability demonstrated by the student. These results could mean university programs

need to better prepare teachers to address the reduced confidence of the teachers their programs are producing. Another study conducted by Lauermann and König (2016) revealed teachers' self-efficacy tended to be lower for more seasoned and experienced teachers than less experienced teachers. These authors explained younger teachers appeared to be more motivated to increase their general pedagogical knowledge, which closely relates to self-efficacy, and older teachers may have decreased opportunity and motivation to build upon their general pedagogical knowledge.

Self-efficacy amongst TVIs also varies. Bickford and Falco (2012) reported some TVIs are more comfortable with using and instructing students with a Perkins Brailler versus a PAC Mate. Both the Perkins Brailler and the PAC Mate are technology devices with a refreshable braille display (Bickford & Falco, 2012; Nadeem, Aziz, Sajjad, Aziz, & Shaikh, 2016). The Perkins Brailler however is used more commonly by individuals with visual impairment that use braille as a media of reading (Nadeem et al., 2016). TVIs could be more comfortable with the PAC Mate due to the device being a commonly used. According to the literature, teacher characteristics and beliefs have a hefty impact on student performance (Guo et al., 2012). Being more willing to utilize effective teaching strategies, having better class management, employing persistence through challenges, and encouraging student responsibility are other characteristics found amongst those with higher self-efficacy (Chacon, 2005; Gibson & Dembo, 1984; Holzberger et al., 2014). Children with special needs require additional attention and unique instruction, even while in the regular classroom (Buli-Holmberg & Jeyaprathaban, 2016). In a research study conducted by Wang, Wang, and Wen (2015), regular physical education teachers

reported being inadequately trained for the inclusion of learners with special needs in their classroom. These researchers found only two of their 15 participants modified the instruction to meet the needs, interests, and abilities of the learners with special needs in their class. The results of their study validated that self-efficacy relates to teacher performance. Furthermore, decreased self-efficacy can attribute to educators leaving the field of education (Zhang et al., 2014). A strong self-efficacy will support a regular education teacher's attempts to meet the literacy needs of learners with visual impairment.

Literature Related to Key Variables or Concepts

Blind and Visually Impaired Conditions

There are several visual diagnoses and conditions an individual can exhibit that will impact their visual acuity (Lewerenz, Peter, & Ford, 2016). According to the World Health Organization (2014), there are four levels of vision function: normal vision, moderate visual impairment, severe visual impairment, and blindness. The most identified causes of childhood visual impairment in the United States are cortical vision impairment, optic nerve hypoplasia, and retinopathy of prematurity (Nye, 2014; World Health Organization, 2014). I will explain each of these diagnoses in this subsection as they are the diagnoses most students in the academic setting may possess.

Visual impairments can either be ocular in nature or be associated with trauma to the brain (Martín et al., 2016). Common causes of cortical vision impairment are asphyxia, congenital malformations, head trauma, and metabolic conditions (Natarajan, 2014). Cortical vision impairment occurs when there is bilateral dysfunction within the

visual cortex or optic radiations; this is a brain-related impairment (Ely, 2016). Those

with optic nerve hypoplasia, underdeveloped optic nerves, can have varying visual acuity,

as there are some with no light perception and others with near normal vision (Kaur et al.,

2013). According to Lewerenz et al. (2016), the incidence of optic nerve hypoplasia is

rising. The final visual impairment to be described is retinopathy of prematurity.

Retinopathy of prematurity was first discovered in the 1940s (Lewerenz et al., 2016;

Reedy, 2004) and is also growing more prevalent as more premature births are occurring

(Tawansy, Muthiah, & Muthiah, 2017). Each of these diagnoses demonstrates unique

characteristics, although the adverse effects are very similar. Those working with

students with visual impairment should become aware of their students vision diagnosis

to better understand their needs (Lewerenz et al., 2016).

Blindness refers to a person that is completely without sight. An individual with

low vision is a person who has a visual impairment, yet with corrective lenses continues

to experience difficulties accomplishing visual tasks (Corn & Koenig, 2002). Much of the

information presented and taught in the academic setting is presented visually, so learners

demonstrating visual impairment will have difficulty accessing the curriculum and

participating in tasks without proper modifications and accommodations. The adverse

educational impact will present itself differently for each student.

Educational Impact and Factors

The education learners receive is a significant factor for becoming independent

lifelong learners and productive members of society (Cheung, 2006; Ostrowski, 2016).

There are many benefits for the inclusion of learners who are visually impaired in the

academic setting. One benefit is creating an environment where students and adults can become more accepting of diversity (Smith, Polloway, Patton, & Dowdy, 2012). Acceptance of one another is obtained by effectively interacting with each other in a positive atmosphere (Salleh & Zainal, 2010). Secondly, giving students with visual impairment an opportunity to receive the same instruction as sighted peers increases their likelihood to obtain a quality education and be more successful after graduation from high school (Bell & Mino, 2015). A third benefit for including learners with visual impairment in the regular education classroom is having opportunities for these learners to learn from peers that do not exhibit a disability. Learners with visual impairment often learn effective general language skills and pragmatic language skills by interacting with their peers not demonstrating a disability (Ajuwon et al., 2015). Additionally, peers may positively influence one another to develop social goals, academic goals, and simply encourage each other on a day-to-day basis (Ruzek et al., 2016). The classroom teacher can facilitate the existence of encouragement that can happen between peers. Though many are supportive of children with visual impairment and other disabilities in the academic setting, some are not.

Some people are not supportive of inclusion because there are a variety of negative educational effects visual impairment can have on a students' ability to function in the regular education setting and it also reduces the ability to address unique learning needs of learners with visual impairment (Hatlen, 2004). A visual impairment limits a students' ability to access visually-presented information and restricts activities they may be able to participate in (Salleh & Zainal, 2010). Reduced ability to access literacy

materials and other visual information is an indication other instructional strategies may be needed. In order to address these unique needs a student may need to receive specialized instruction outside of the regular classroom setting (Jackson, Ryndak, & Wehmeyer, 2008). Additionally, social isolation has been identified as an adverse effect of the inclusion of student with visual impairment in the regular education setting (Sacks & Wolffe, 2006; Salleh & Zainal, 2010).

According to Ostrowski (2016) student with visual impairments are offered accommodations in the academic setting as legally mandated, however the effectiveness of the accommodations is insufficient. To fully understand the disadvantageous impact of visual impairment, the student must participate in formal and informal assessments (Newcomb, 2010). The results of the assessments will facilitate the individualized education plan team's ability to meet the specific needs of the student. The adverse effects discussed in this section are general adverse effects for the visually impaired population identified in literature. Regular education teachers will need to take all of these factors into consideration when instructing learners with visual impairment in their classrooms.

The students within this population are not able to visually attend to classroom presentations or social interactions in the same manner as their peers who are sighted. They also have a reduced ability to access literacy materials and curriculum in the academic setting (Ostrowski, 2016; Salleh & Zainal, 2010), yet regular education teachers are responsible for instructing students with visual impairment while taking these factors into consideration. Without general education teachers having training or

being educated about how visual impairments effect learning, they will not fully understand the needs of students with visual impairment (Ely, 2016). Outside of these traditional factors, the ECC has been developed to provide additional support for these learners. The purpose of the ECC is for students with visually impairment to be able to leave the academic setting with the necessary skills to be independent and have self-determination to reach their highest potential (Sapp & Hatlen, 2010).

The components of the ECC include: compensatory or access skills, orientation and mobility skills, social interaction skills, independent living skills, recreational leisure skills, career education, use of assistive technology, sensory efficiency skills, and self-determination skills (Lieberman, Haegele, Columna, & Conroy, 2014; Wolffe & Kelly, 2011). The components of the ECC apparently go beyond the core curriculum areas of math, reading, writing, and science (Lohmeier et al., 2009) yet are taught in the academic setting. The following descriptions have been developed from Sapp and Hatlen (2010), Wolffe and Kelly (2011), and Hatlen (2003) for each of the nine components of ECC:

- Compensatory access skills are the skills needed to access all areas of the core curriculum.
- Orientation and mobility consists of learning independent and safe travel in a variety of settings.
- Social interaction skills focus on social concepts and the application of social skills in varied settings.

- Independent living skills involve instruction with activities of daily living. This can include but isn't limited to cooking, cleaning, laundry, and organization of items within a residence.

- Recreational and leisure skills include instruction focusing of lifelong skills involving hobbies, sports, physical fitness, and other recreational skills.

- Career education involves support in exploration interests, obtaining basic knowledge of the work force, and preparing to enter the work force.

- Assistive technology includes instruction on how to use appropriate technology devices to facilitate access to the general learning environment.

- Sensory efficiency skills consists of training the student to utilize his or her remaining functional vision, as well as his or her tactile and auditory senses.

- Self-determination skills consists of providing opportunities for the student with visual impairment to practice decision making, problem solving, and having a sense of self.

It is typical for children who are sighted to incidentally learn the skills described in Table 1. However, children who are visually impaired need to be taught these skills (Lohmeier et al., 2009). Despite TVIs reporting being knowledgeable of the ECC, many parents have expressed that they perceive the ECC is not being applied in their child with visual impairment's academic setting (Lohmeier et al., 2009). Regular education teachers

and special education teachers are often responsible for addressing the ECC areas in their classroom in addition to teaching the regular curriculum. The ECC is of vital importance to the population of young individuals with visual impairment and adolescent individuals with visual impairment. A strong social-emotional development, facilitated by the ECC, will enable the students' readiness for learning (Aviles, Anderson, & Davila, 2006). Skills such as time management, organization, and strong study habits are essential for these learners to excel in postsecondary education (Ostrowski, 2016). Furthermore, a teacher's attempt to develop solid skills within the ECC may facilitate support for learners' expectations of their potential to attain employment and personal successes in the future (Margraf & Pinquart, 2015).

One area of ECC significantly lacking attention is technology. There are a number of technology options for reading and writing. Technology is taking more precedence in society overall, yet many do not realize technology is even more important to those with visual impairment. The purpose of assistive technology is to enhance or maintain the functional capabilities of a student (Ostrowski, 2016). Regular education teachers who have a learner who is visually impaired will find themselves needing to have basic knowledge of many of these devices. In a research study conducted by D'Andrea, (2012) 1 out of 12 students with visual impairment reported he or she learned to use technology devices from a TVI. All other participants learned from their regular education teacher, special education teachers, or through a center based program outside of the school. Regular education teachers' experiences with these devices will be inquired about during their interview.

In another study conducted by Saleem and Sajjad (2016), learners with visual impairment reported use of technology was important to them, yet many of them did not have access to or proper availability for various devices commonly used. Many TVIs experience difficulty with appropriately fitting students with a braille technology device due to the student's reduced braille literacy skills (Wiazowski, 2014). Students with low vision often do not have this issue because they are proficient print readers and the available technology displays it adequately. Utilizing appropriately fitted technology devices allows learners with visual impairment to be independent and have an augmented quality of life (Weigand, Zylka, & Müller, 2013). Technology tools used by learners with visual impairment can include but are not limited to magnifiers, refreshable braille devices, a monocular, an abacus, a cane, an iPad, a braillewriter, and a slate and stylus (Saleem & Sajjad, 2016; Wilkinson, Olson, & Kuusisto, 2011). Although technology assists with accessing visual information in the classroom, it can steer educators away from incorporating or teaching braille literacy early on (Toussaint & Tiger, 2010). Students who are gradually losing their vision should be cautious about relying on assistive technology that does not incorporate braille. The lack of attention given to the ECC in the public school setting could be due to this information being presented and provided to TVIs, but not being consistently communicated to regular education teachers.

Lack of Teachers of the Visually Impaired

Inclusion of students with special needs in the regular education classroom is not novice for regular education teachers and has become an objective in education (Aron & Loprest, 2012; Reindal, 2016). Prior to inclusion, many students with special needs were

being served in a separate classroom or a separate setting (Ajuwon et al., 2015). Another

mean of serving students with special needs is integration. Reindal (2016) defined

integration as educating students with special needs in the same school as typically

developing peers and potentially to present mainstream curriculum to these learners.

Inclusion has significantly pushed educators into providing differentiated instruction, as

well as implementing several accommodations and modifications. Making

accommodations and modifications in the regular education setting can be a cumbersome

task for regular education teachers (Wiazowski, 2012). According to Kiel, Heimlich,

Markowetz, Braun, and Weiß (2016) it is impossible for educators to know all

expectations, previous educational history, previous fears and biases for each of their

students, and even expectations of colleagues. However, a teacher's lack of accepting the

responsibility for educating students with special needs in their classroom will create and

insignificant academic setting for these learners (Reindal, 2016). When taking into

account the needs of students with vision impairment, teams must consider how feasibly

the necessary teachers (e.g., TVI, regular education teacher, and an orientation and

mobility specialist) can collaborate and rely on one another (Ely, 2016). All of these

factors are important for providing differentiated instruction and meeting the needs of

learners with special needs in their classroom.

Implementing accommodations and modifications becomes even more

challenging when there is limited support from the resources needed. Ostrowski (2016)

reported accommodations in the educational setting are only advantageous if they are

high quality and readily available. This lack of support may be because of a shortage of

professionals trained to work with students who are visually impaired (Blake & Brown, 1993; Hatlen, 2007; Kim et al., 2012; Leigh & Barclay, 2000). Additionally, administrators may view the decreased number of learners who are visually impaired in their school district as a justification to not hire full-time specialists in this field (Sanspree & Kelley, 1991). Although families are primarily responsible for investing in their child (Berger & Font, 2015), administrators and TVIs exhibit the leadership role for the educational practices used with students who are visually impaired. The more consistent the leaders are involved with supporting and being a resource for regular education teachers, the more consistent general education teachers become in their practices (Heck & Hallinger, 2014).

Over the last several years, there has been a shortage of TVIs in addition to special educators. A shortage of teachers is an issue in academic settings across the world (Heinz, 2015). The amount of programs available to certify teachers to serve learners who are visually impaired is limited (Gilson, 2014). This shortage may be attributed to decreased administrative support and the lack of opportunity for professional development (Lawrenson & McKinnon, 1982). Collaboration between professionals is a multifaceted task that is unnatural to do some (Buffum, Mattos, & Weber, 2012; Wang, Wang, et al., 2015), and the shortage of TVIs further puts a damper on being able to collaborate. These specialized teachers are essential because their primary role involves evaluating, instructing, and supporting the ECC (Pogrund, 2014). Regular educators and special educators in the academic setting are then bombarded with making sure the needs, specifically the literacy needs, of students with visual impairment are being met.

Public school settings often do not have a TVI on staff full time. This results in contracting a specialist in, and their time at the school is usually limited to the time they are providing direct services to the child. Often, service providers working with children who are visually impaired provide direct services to the identified student and may not be as involved with coteaching. The reduced time specialists are in the public school setting leaves minimal time for consult and collaboration with regular education teachers. When partnering educators have a restricted amount of time to collaboratively plan and evaluate, their performance on the shared task will be adversely affected (Strogilos, Stefanidis, & Tragoulia, 2016). Kirchner and Diament (1999) make an even more alarming point in their article. According to these authors, the lack of specialists in this field results in individuals who are visually impaired being less employable as adults because their education has been inadequate.

Even though there is a significant lack of certified educators to work with children who are visually impaired, there are ways school districts can be resourceful and support the needs of these learners and be a great support for regular education teachers. Various trainings are available to regular education professionals and paraprofessionals, which can supplement the direct services or collaboration provided by TVIs. These trainings can be completed online or in a traditional training session. An online library called The Library of Video Excerpts that offers video clips less than 10 minutes in length for educators wanting to view ideal instructional strategies and implementation when working with students with visual impairments (Trief & Rosenblum, 2016). These clips would be of great benefit for education teams learning and developing effective teaching

skills. Not only is obtaining initial educator training important, ongoing education is also important.

The results of a study analyzing participants' improvement to format braille materials revealed there was a significant difference between their pretest and posttest scores (Herzberg, Rosenblum, & Robbins, 2016). Ongoing educator training facilitates accurate braille and tactile materials for students with visual impairment. Forming an individualized education plan team focused on establishing a vision for learning outcomes, effective teaching, and building a relationship conducive for coteaching learners with visual impairment would be highly beneficial for both the educators involved and the student (Fluijt, Bakker, & Struyf, 2016). Knowledgeable paraprofessionals can significantly encourage and support braille rich learning environments (Gilson, 2014) in the regular education setting.

Choosing Print or Braille

Despite braille literacy being a viable option for learners who are visually impaired, very few students use braille as their primary learning medium (Roe et al., 2014). The number of learners with visually impairment that can read braille has significantly decreased over the years. In 1960, 50% of individuals who were legally blind could read braille, and in 2007, 12% of legally blind individuals could ready braille (Toussaint & Tiger, 2010). In more recent literature it has been reported 10% or less of visually impaired individuals are able to read braille (Douglas, McLinden, Farrell, et al., 2011; National Federation of the Blind Jernigan Institute, 2009). Herzberg, Rosenblum, and Robbins (2017) interviewed 87 teachers of students with visual impairment. These

teachers reported only 25% of their dual-media readers were performing at or above

grade level with braille literacy. The reading requirements students with visual

impairment can be extensive and rarely available in alternate formats (Ostrowski, 2016).

Many children with residual vision are taught to utilize large print or rely on auditory

methods to access information (Toussaint & Tiger, 2010).

There are many barriers for teaching braille (Gilson, 2014). Braille consists of a

code that has many contractions and symbols (Savaiano et al., 2014). The decisions for

braille include whether to teach contracted or uncontracted braille and the amount of time

that will be dedicated to this learning media (Lusk & Corn, 2006). Braille is a foreign

language to many, and this may be a factor for regular education teachers veering away

from using it in the regular education classroom setting (Wiazowski, 2014). According to

the Individual with Disabilities Education Act, each student identified as student with

visual impairment or blindness should participate in a learning media assessment. A

learning media assessment consists of analyzing a student's reading and writing

skills/needs in print and braille. The Individuals with Disabilities Education Act also

indicated instruction in braille must be provided unless the individualized education plan

team determines this service is not appropriate for the learner who is visually

impaired (Douglas, McLinden, Farrell, et al., 2011; Gilson, 2014).

The TVI compiles the learning media assessment from various sources. This

evaluation includes: a recent eye examination by an ophthalmologist or optometrist, a

clinical low vision evaluation from a low vision specialist, a functional vision assessment,

an assistive technology assessment, and any other necessary assessments providing

relevant information about the student's current level of performance (Lusk, Lawson, & McCarthy, 2013). Individualized education plan teams should take into consideration all of the results of these assessments when determining the best learning medium for students in this population to access literacy. The learning media chosen should be the media, which allows the child to be successful functionally and academically. There will be times when both learning mediums will be best for the learner who is visually impaired. Regardless of the learning medium chosen to access literacy, assessing these skills in an ongoing fashion will be pertinent throughout the child's educational career.

In regards to print, there are three options to be considered. The individualized education team must determine whether standard print, standard print with an optical device, or enlarged print will be the best option for the learner (Corn & Koenig, 2002). This determination would be based on the assessment results gathered by the TVI. If a student is going to use optical devices to access their curriculum and materials presented, they will need additional instruction on how to use these tools (Douglas et. al., 2011). Regular education teachers would also need to be knowledgeable of how to effectively provide access for this learning media.

Dual-Media Reading

When a student with visual impairment learns braille and print simultaneously, he or she is considered a dual media learner (Lusk & Corn, 2006). For students who have functional vision, being a dual-media reader may be a viable option (Corn & Koenig, 2002). Becoming a proficient braille reader takes a significant amount of time (Roe et al., 2014). This extended amount of time can be especially true for students who are dual-

media readers, using both print and braille as a learning media. Dimitrova-Radojichikj (2015) conducted a research study and found braille reading rates were much lower than print readers, although not significantly lower for learners with visual impairment. The reduced reading speed in braille may be a reason educators often encourage students who are dual-media readers to use enlarged print or auditory means for accessing literacy materials (Toussaint & Tiger, 2010).

How much emphasis braille materials would get in a school day for a student who is a dual-media reader, would depend on the student's individual needs (Dimitrova-Radojichikj, 2015; Lusk et al., 2013). Some learners will learn braille as their primary learning medium and use enlarged print secondary. Therefore, more time will need to be allotted for braille instruction and braille practice. Other students may learn braille as a means to supplement their print materials. For example, if a student with optic nerve hypoplasia has adequate functional vision to be successful with enlarged print yet demonstrates visual fatigue; braille would be a way for the student to continue accessing literacy materials without putting more strain on the eye. Or, if a student has a progressive vision loss he or she may use braille literacy materials in a supplemental manner until braille is needed predominantly. By the time a student with visual impairment is in kindergarten the decision usually has been made whether he or she will be a dual-media reader (Lusk & Corn, 2006). A student's diagnosis, reading speed in print, and stamina when reading print are the most common reasons teachers of students with visual impairment introduce braille to their students (Herzberg et al., 2017). The individualized education team should revisit this decision over the course of the student's

academic journey. Regular education teachers will need to be knowledgeable of how to incorporate braille literacy and enlarged print in their classroom for these learners with dual-media reading needs.

Summary

There are various vision conditions an individual can have and each affects individuals differently. Many students who are visually impaired go through their academic journey within the public school setting. Major themes in the literature review include the presence learners with visual impairment in the regular education setting, the self-efficacy of teachers varying, the need for collaboration in the academic setting, and the multifaceted education learners with visual impairment require beyond the core academic subjects. Many of these students require specialized instruction the area of braille and/or enlarge print, assistance with their core classes, and instruction within the various areas of the ECC. Collaboration between regular education teachers, a TVI, and other individualized education plan members is vital to effective and efficient instruction for these students. Research is showing collaboration and support between colleagues increases teachers' self-efficacy, which affects student performance in the classroom. There is a gap in literature regarding regular education teacher's experience working with students who are visually impaired, especially in the area of literacy. I sought to fill this gap by interviewing regular education teachers and obtaining their perception of their ability to meet the needs of students within this population. The results of the research will provide readers, educators, and stakeholder's information about supports regular education teachers may need to better serve these children. Conducting one-on-one

interviews is the best type of data collection, which allows researchers the ability to obtain in-depth information about the participant's perceptions. A researcher often chooses research design based on the type of data needed to be collected and analyzed a certain way (Wall Emerson, 2016). In Chapter 3 I will describe and explain the rationale for the research design, participant selection, instrumentation, and the procedures taken for data analysis. Trustworthiness and ethical considerations will also be discussed in Chapter 3.

Chapter 3: Research Method

Introduction

Measuring teacher self-efficacy is and should be a continual inquiry in the field of education. The problem I explored in this research study was a lack of adequate support and resources for regular education teachers instructing students who are visually impaired. The reduced self-efficacy and reduced performance of teachers can be a result of the lack of support and/or resources (Ajuwon et al., 2015). My goal with this research study was gaining descriptive data about regular education teachers' perceptions of their ability to meet the literacy needs of learners with visual impairment. Conducting a qualitative interpretive case study allowed me to collect in-depth data through interviews with 10 participants who were selected using typical case sampling to answer the research questions.. In this section, I will discuss the research design, role of the researcher, methodology, and instrumentation. I will conclude this chapter by presenting the procedures for recruitment, participation, data collection, plan for data analysis, trustworthiness, and ethical procedures.

Research Design and Rationale

I chose to use the qualitative research method in this study based on the research question. The primary question for this research study was: How do elementary regular education teachers perceive of their own preparedness to meet the literacy needs of students with visual impairment? In this study, I used a qualitative research methodology with a case study design in order to obtain descriptive data about teachers' perceptions of their self-efficacy for meeting the literacy needs of learners who are visually impaired.

The interpretive case study research design was chosen because it focuses on a single account or phenomena with the goal to reveal descriptive information about the relationship and experience of the accounts (see Yin, 2003).

For the purpose of this study, a regular teacher was considered an individual who had completed a traditional university-based teacher preparation program and instructed in regular education academic environments (see Feng & Sass, 2013). Researchers have indicated the majority of students with visual impairment are attending public school settings and receive some of their instruction from regular education teachers (Kamei-Hannan et al., 2012); however, there tends to be lack of collaboration between specialists and regular education teachers (Lawrenson & McKinnon, 1982; Roe et al., 2014). The research subquestions I developed were:

1. How do regular education teachers perceive the professional development and training opportunities prepared them to incorporate braille and enlarged print into their classroom?

2. How do regular education teachers perceive the advancements in technology has affected the presentation of literacy materials in the classroom setting?

These questions directly related to the purpose of this research study, which was obtaining regular education teachers' perceptions of their ability to meet the literacy needs of student who are visually impaired.

Qualitative research is an interpretive and free-flowing process (Corbin & Strauss, 2014). Qualitative research is not as structured as quantitative research and allows for more dynamic and descriptive data to be collected (Rubin & Rubin, 2012). One reason I

chose a qualitative interpretive case study method was because it allowed me to gain insight into teachers' perceptions of their own preparedness to teach students with visual impairment or blindness and what types of professional development opportunities they might need. A second reason was that a case study method allowed for a focus on and collection of data on a small group of participants through multiple sources and perspectives (see Lodico et al., 2010). A third reason I chose a qualitative research design was that it is the best means of capturing a person's perceptions and experiences in a descriptive form. Thick descriptions allow for a deeper understanding of the information presented and a means to make informed decisions (Bogdan & Biklen, 2007).

I also considered other qualitative research designs for this study. These designs included phenomenological and grounded theory design. Grounded theory design is used when the researcher desires to develop a theory in order to explain an event (Corbin & Strauss, 2014). Although grounded theory research offers a means of explaining information collected through data, it was not chosen because I was not establishing or developing a theory in this study. In a phenomenological research design the researcher takes more of a naive mindset when conducting the research study (Bogdan & Biklen, 2007). This means they take a more open approach when collecting data because there are no assumptions as to what information will be gained. I rejected a phenomenological research design because I sought in-depth information pertaining to the regular education teachers' perceptions of their ability to me the literacy needs of students with visual impairment. Phenomenological research would not have elicited this type of information.

Many self-efficacy studies in the field of education are based on teachers rating themselves or filling out a Likert scale (Cheung, 2006; Dellinger et al., 2008; Ekins et al., 2016; Holzberger et al., 2014), which is a quantitative research design. The results of this type of research are numerical in nature. Researchers often display their numerical data in visual representations (e.g., graphs and tables) which allows readers to visualize and analyze the data in a more simplistic form (Kubina, Kostewicz, & Datchuk, 2010). Although previous research has used quantitative research methods to gain insight about teacher self-efficacy, in this research study I strove to obtain in-depth, descriptive data about the perceptions of their experience, and therefore, a qualitative research approach was the more appropriate research design (see Bogdan & Biklen, 2007; Erickson, 2012; Lodico et al., 2010).

Role of the Researcher

Although I have worked in the field of special education for several years, I am not affiliated with the specific buildings within the school district where I conducted this study. For the last 9 years I have been working as a speech language pathologist in the public school setting. As a speech language pathologist, I have worked with a variety of children with medically diagnosed disabilities and students with educational disabilities. These disabilities include but are not limited to sound system disorders, autism, learning disabilities, language impairment, and vision impairment. I have worked in the school district that participated in this study but not the buildings the participants were recruited from.

Not being affiliated with the participating buildings reduced potential biases when collecting my research information. Being a third party allowed me to stay objective when collecting and analyzing data. I needed to be more cognizant of building rapport with the participants because I was not familiar to them. I also needed to make sure they were comfortable with expressing their responses to the interview questions openly. My main role in this research study was to collect, interpret, and report the data collected. Organizing and conducting the research study makes the researcher just as involved, if not more involved, as the participants (Corbin & Strauss, 2014). I ensured the participants and stakeholders were aware that I was vested in this research study and put forth my best effort to conduct a valid and reliable study benefiting their program and the practice of their educators.

Establishing a Researcher-Participant Working Relationship

In an effort to establish a research-participant working relationship, I sent an introductory letter to each of the participants explaining who I was, my role in the study, and the purpose of the study. I was cautious of my wording in an effort to reduce reactive arrangements. I did not want to skew participants' willingness to participate or create a setting in which they felt they had to answer a question a certain way. In my role as the researcher, I prompted participants to share their experiences openly and honestly. Interviews took place in a location comfortable for the participants, and they had the opportunity to take breaks as they needed to. Prior to the interview starting, the participant had the opportunity to ask me questions. I ensured I was prepared to conduct the interview by developing an interview protocol and making sure the recording

equipment was in working order. The volunteer participants were aware they were not required to complete the interview. Throughout the research study, it was my role to actively listen, share the curiosity of the subject, and respect the participants' perceptions of their experiences (see Rubin & Rubin, 2012).

Researcher's Experience and Biases Related to the Topic

There are several types of biases that can occur in a research study. I have 9 years of professional experience working collaboratively with regular education teachers in the public school setting as a speech language pathologist. Although I work with children with special needs, I am not consistently involved with learners who are visually impaired or TVIs. I do have a daughter who exhibits a visual impairment. I have been actively involved in her academic journey, intervention services, and medical visits since she was diagnosed as an infant; she is now a student in high school. I have also engaged in volunteer work at a school for the blind in a preschool setting. A researcher's ability to avoid conflict of interest and not become too close to a case is imperative (Hatch, 2002). My personal experience with the population of the visually impaired combined with my professional experience working with regular education teachers allowed me to be knowledgeable and proficient enough to conduct the research study and conduct the interviews (see Krueger & Casey, 2009).

Methodology

Participant Selection Logic

This research study took place in a single school district in the west-central area of Missouri. This school district has four elementary schools, a middle school, and a high

school. I chose the participants from within three of the elementary schools. Two elementary schools consisted of student in grades kindergarten, first, and second. The other two elementary schools consisted of third, fourth, and fifth grades.

This school district is smaller than an inner city school district but not as small as a rural setting. Although the goal of case study research is not to be able to generalize the results to all settings and/or populations (Hyett, Kenny, & Dickson-Swift, 2014; Thomas, 2011), the characteristics of the school district and teacher demographic may be similar to other settings in which their stakeholders can relate. The characteristics of this school district also allowed me to obtain all of my participants from one school district rather than needing to obtain partnership with several school districts willing to participate. One advantage of using a single school district was being able to gain thorough enough information to understand the topic at this particular setting, which aided in development in the development of a training program or protocol.

I used typical case sampling to select participants for this study. Participants for this research study were chosen based on the grade level they taught. The criterion for the participant was that he or she must be a regular education teacher teaching student(s) in grades kindergarten through fifth grade. Special education teachers, paraprofessionals, and specials teachers (e.g., art, music, or physical education) were not included in this study. These particular sets of teachers were not included because their role in providing literacy instruction to students with visual impairment is minute, and therefore, they would not have any experience being the primary instructor in the area of literacy. Regular education teachers are the educators mostly involved with addressing literacy in

the academic setting for students enrolled in their school. I only sent invitations to participate to regular education teachers in the specified elementary schools. Consent to participate was obtained from 10 regular education teachers. According to Yin (2013), if the research study obtained a small number of participants, there is a risk the results of the study may lack the ability to be generalized to another setting. Yin also pointed out if the research study has an increased or large number of participants, then the researcher may demonstrate difficulty analyzing the amount of data collected. For this reason, I limited the number of participants to 10 in this study. With this number of participants, a breadth of information could be obtained from each participant resulting in saturation for the topic at hand.

Instrumentation

The data collection process began after I obtained approval from the institutional review board (IRB) at Walden University. Once the application to conduct the research study was signed I was able to begin recruitment of participants. As volunteers expressed interest in participating, I obtained their signed consent to complete the participation requirements including the one-on-one interview. Interviews are a common and effective way to collect data in qualitative research studies (Lodico et al., 2010) and they allow stakeholders to become aware of perceptions which are hard to see (Rubin & Rubin, 2012). Interviews can be conducted one-on-one or within a focus group. I chose to conduct one-on-one semistructured interviews with the participants in this research study. The semistructured interviews were guided by the use of an interview protocol (Appendix C). The protocol included a script to explain the purpose of the research study and

designated places to put the date of the interview, interviewee background information, and preliminary open-ended questions to be asked in the interview (Lodico et al., 2010). Interviews which entail use of open-ended and broad questions allow for themes to emerge (Creswell, 2012) and conversation to take place (Lodico et al., 2010) during the data collection process. Establishing rapport with the participant in an effort to gain in-depth information about their experience through interviews aligns with the interpretive case study approach (Cohen, Manion, & Morrison, 2000).

As the interviews were conducted a researcher is able to probe participants for a deeper understanding of their experiences and perceptions (Lodico et al., 2010). The probes included (a) describe that to me and (b) explain that a little more. I was mindful of the wording of the interview questions so they were not leading the participants to respond a certain way. The interview questions connected to the social constructionist and social theories in a manner in which their responses allow them to share their experiences. After each interview was conducted descriptive and reflective field notes were documented. The purpose of documenting field notes is to document description of participants, personal reflections, and possibly key responses from the participants (Bogdan & Biklen, 2007; Lodico et al., 2010). Each interview was audio recorded in order for me to later transcribe and analyze the responses.

Procedures for Recruitment, Participation, and Data Collection

In order to make initial contact with the school district I sent an e-mail to the superintendent of schools to inquire about their procedures for allowing research to be conducted within the district. The superintendent and myself then had a face-to-face

conversation regarding the purpose and outline for my study. At that time I was provided with the paperwork to fill out for approval to conduct the study within the district. After submitting this information to the IRB and gaining their approval I then sent each building principal and e-mail to ask how they preferred for me to contact their classroom teachers. Each certified regular education teacher was sent an e-mail containing the invitation to participate in the study. I scheduled an interview time with each teacher that responded and also asked them where they would like to have the interview conducted.

The informed consent was reviewed with each participant prior to obtaining his or her signature. Data collection began March 9, 2017 and concluded April 11, 2017. I conducted an average of two interviews each week between these dates. Many of the participants chose to hold the interview within the building they worked; however, I did conduct an interview in the home of one of the participants. Each interview was audio recorded and none of them lasted more than 20 minutes. None of the participants had experience with the use of braille or various types of technology used to give student with visual impairment access to literacy. This resulted in many of their responses to interview questions to be short in length. The recordings were then transcribed and reviewed before sending to the participant to conduct their member check. When the transcript was sent to the participant for review, they were presented with any follow up questions I had regarding the responses. The participant's role in the study was completed upon responding with any corrections, comments, or providing additional information based on the member check. Their gift card was e-mailed to them once their response was received.

Data Analysis Plan

Data analysis is essentially the process of systematically deciphering and organizing all data collected and determining the findings (Bogdan & Biklen, 2007). The audio recordings collected during the interviews provided the majority of the data analyzed in this research study. Each interview was transcribed in a word-processing document. I printed the transcripts to review and e-mailed each participant a copy to review it for accuracy before it is coded. Once the participant had reviewed their transcript they completed their requirements as a participant. The data were analyzed based on steps outlined by Rubin and Rubin (2012). The first step these authors suggest is reading through the transcripts several times. Reading through each transcript multiple times allows the researcher the ability to become more familiar with the data prior to coding it. During this time Bogdan and Biklen (2007) recommend becoming aware of regularities and patterns in the data.

Once I was familiar with the transcripts, the transcripts were coded and categorized by themes (Rubin & Rubin, 2012). NVivo (Khadka, Ryan, Margrain, Woodhouse, & Davies, 2012; Zapata-Sepúlveda, López-Sánchez, & Sánchez-Gómez, 2012) was used to initially identify key terms and topics within the interview transcripts. I inputted data from the transcripts into NVivo (see Khadka et al., 2012; Zapata-Sepúlveda et al., 2012) and ran word frequency queries based on the three research questions: technology, education/training, and use of braille and/or enlarged print. This assisted me with identifying key themes revolving around these topics and to quickly identify the areas participants discussed the topics (see Zapata-Sepúlveda et al., 2012).

Once key themes were identified, I went through each interview transcript and color-coded the participant's responses based on the identified themes. Color-coding allowed easy visualization of the codes and themes. Once the data was color-coded I was able to create nodes within NVivo (see Khadka et al., 2012; Zapata-Sepúlveda et al., 2012) to sort data from the interviews. Sorting the data allowed me to complete the next step. The fourth step in analyzing the data was clarifying meaning and synthesizing different versions of events (Rubin & Rubin, 2012). In order to clarify meaning and obtain more information follow up interviews were conducted with six of the participants. Follow-up interviews were done over the phone or through e-mail. These interviews were done to obtain clarifying information, more demographic information, and to obtain further information regarding what the participants felt would be beneficial for them if they were going to instruct a student with visual impairment. Synthesizing the different versions of events and identified themes, allowed the researcher to determine how the data collected answered the research questions and understanding the core concepts. Answering the research questions was the last step in the data analysis process suggested by Rubin and Rubin (2012). The themes revealed through coding and the answers to the research questions were explained in a descriptive narrative format. The results were provided to the community partner.

Trustworthiness

The key aspects of trustworthiness include: credibility, dependability, transferability, and confirmability. Allowing each participant to complete a member check increases the credibility of the research study and assist with reducing research bias

(Lodico et al., 2010). The field notes obtained after each interview would also help with reducing researcher bias and facilitates objectivity for the researcher (Creswell, 2012). Field notes can help with recollection of pertinent information regarding the setting and interactions that took place while data was collected. Not having affiliation with the buildings used to recruit participants decreases the likelihood of experimenter effects (Lodico et al., 2010). Other ways to ensure confirmability and staying objective are communication, debriefing, and reviews with the committee members consistently throughout the conduction of the research study.

In order to establish dependability and transferability in a qualitative research study the researcher must provide detailed accounts for the research procedures and the results (Lodico et al., 2010). A qualitative research study exhibits adequate dependability when each procedure done within the study can be tracked and identified by the reader. Researchers can establish and audit trail for readers to know their procedures. Transferability can only be determined or judged by the reader of the study as well. Therefore, the researcher needs to provide thick descriptions and sufficient detail in order for the reader to determine whether the study being read can be generalized to another setting or another population. Thick descriptions also assist with determination of the specific procedures the researcher completed.

When coding written or narrative data, a researcher must make certain either intracoder or intercoder reliability has been established. Intercoder reliability does not apply to this research study because I coded the data by myself. In order to establish intracoder reliability, the researcher must code the data in a consistent manner. Using

coding software assisted me with consistently coding the data collected in the research study. Becoming familiar with the data collected and searching for regularities will also assist a researcher in determining if the content of the data has been accurately reported and included in the analysis or interpretation (Bogdan & Biklen, 2007).

Ethical Procedures

Anytime research uses humans as participants there are ethical risks that must be addressed. Three basic ethical principles a researcher should be cognizant of are beneficence of treatment of participants, respect for participants, and justice (Creswell, 2012). The first steps I took to conduct the research study included gaining approval from the Walden IRB (study # 02-12-16-0359477) and consent from the superintendent of schools. After Walden IRB approved the research study, I submitted a permission letter (Appendix A) to the selected school district. The letter informed the proposed participating district about the research study's purpose, scope, and methodology. The letter also informed the district of the research study being approved through the Walden IRB, that the participants may opt out of participation at any time, and the results of the study would be shared with them.

Upon approval from these two entities, I provided the teachers meeting the participant criteria with an invitation to participate in the research study. The participants were selected through typical case sampling methods. In the invitation to participate (Appendix B) I specified participation in the research study was voluntary and explained the necessary qualifications to participate in the study. I inquired about the potential participant's experience with instructing students with visual impairment. Of those who

respond, 10 individuals were provided an informed consent form. The informed consent

form included information about the purpose of the study, measures for participant

confidentiality, researcher contact information, any foreseeable risks to the individual,

conditions of participation, and benefits of the study (see National Institutes of Health

Office of Extramural Research, 2011). After I obtained informed consent forms,

interviews were set up in a neutral location with the participants. I did not identify the

participants by name, each participant was given a number, nor was the school district

identified in detail enough to be identified by readers.

Summary

There are amalgams of factors regular education teachers will need to take into

consideration when instructing a child with visual impairment in their classroom. The

collaboration between the regular education teachers, a TVI, and other individualized

education plan members will help increase the teacher's self-efficacy and facilitate a

more efficient educational environment for learners in this population. The data collected

through interviews provided descriptive data to answer the research questions. In Chapter

4, I will outline specifically how the data were collected, how it was analyzed, and

evidence of trustworthiness. The final component of Chapter 4 will be the research

results.

Chapter 4: Data Collection and Analysis

Introduction

The purpose of this qualitative interpretive case study was to explore regular education instructors' perceptions of their self-efficacy and ability to modify literature for their learners who are blind or visually impaired. I also sought out information regarding support these teachers may need to meet the literacy needs of learners with visual impairment, and the final purpose of this study was to add to the literature on this topic. In this chapter, I will describe the setting, demographics of participants, as well as procedures I used for data collection and data analysis. Towards the end of the chapter, I will review evidence of trustworthiness and then explain the results of the study.

Setting

This research study took place in a public school district in the west-central area of Missouri. During the data collection period, the conditions within the district were stable. Each of the participants that started the study completed their participation requirements fully. There were no significant traumas or budget cuts that influenced the participants' completion of the study. The participants in this study provided instruction in three of the district's six school buildings.

A total of 10 participants were included in this study. The grade levels taught during the time of the study ranged from kindergarten up to fifth grade. There were two kindergarten teachers, one first grade teacher, one second grade teacher, three third grade teachers, one fourth grade teachers, and two fifth grade teachers. These participants demonstrated teaching experience ranging from 4–21 years and from preschool up to the

college level. Three of the 10 participants had experience working with a child with vision deficits of some capacity.

Data Collection

I conducted one-on-one interviews with the 10 participants. These interviews were conducted in a location convenient for the participant (e.g., a room in their school building or at their home), and they lasted an average of 12 minutes. The average time of the interviews were reduced due to a majority of the participants not having experience with instruction students with visual impairment. The seven participants that did not have experience with a student with visual impairment were not able to provide as much insight to the interview questions as the three that had experience. Each interview was audio recorded to allow later transcription of the information gathered. As I generated the transcripts I labeled them by participant number. Upon completion of transcription, each transcript it was sent to the respective participant for review.

Data Analysis

After each participant reviewed their transcript, I became familiar with the data collected. Each transcript was read multiple times in order for me to become familiar with the content and basic themes throughout prior to inputting the interview data into NVivo (see Khadka et al., 2012; Zapata-Sepúlveda et al., 2012). I first input the data into NVivo and ran an analysis to determine common words and statements made throughout the sample as they related to the research questions through a text search query and a word frequency query (see Khadka et al., 2012; Zapata-Sepúlveda et al., 2012). I also printed each transcript out to color code and further identify themes.

I completed analysis of the data by reading each transcript and comparing each participant's answers as they related to the research questions and common themes brought up. While doing this, I highlighted statements made that stood out and would support the identification of the themes. The themes and quotes were further categorized by how they related to the research questions.

Results

As stated in Chapter 1 and Chapter 3, the primary research question for this research study was: How do elementary regular education teachers perceive their own preparedness to meet the literacy needs of students with visual impairment? I also sought to answer these two subquestions:

1. How do regular education teachers perceive the professional development and training opportunities prepared them to incorporate braille and enlarged print into their classroom?

2. How do regular education teachers perceive the advancement in technology affected presentation of literacy materials in the classroom setting?

I ran a word frequency query on the interview questions related to the first subquestion of the study. The three words most frequently used for this question were braille, disabilities, and training. Further review of the responses revealed all of the participants stated they had not had any type of training or professional development for incorporating braille or enlarged print in throughout their professional career or during their collegiate studies. Participant 3 stated, "I don't ever remember talking about that in my undergrad" and Participant 9 shared, "I really haven't had training; I've just been self

taught." The participants that had taught a student with visual impairment shared the information they were aware of came from collaboration with the child's team members (primarily the special education teacher) as well as trial and error on their own account. Many of the participants stated they would desire and welcome formal training if they were going to be instructing a student with visual impairment. The themes identified related to what the training should be included were: phonemic awareness, reading fluency, how to get and use resources, safety in the academic setting, writing, getting to know the student as an individual, and what teaching/presentation strategies have been implemented. Teaching the concepts of phonemic awareness and reading fluency directly related to the problem I expressed in Chapter 1 of the lack of support for teachers in the regular education setting and the reduced use of braille in the classroom. Literacy concepts were a concern for the three teachers that had instructed students with visual impairment and those that had not instructed students with visual impairment. As I discussed in Chapter 2, accessing visual information, print material, and text has been identified as a barrier for students with visual impairment (Douglas, McLinden, Farrell, et al., 2011). The resulting data aligned with the literature and revealed the participants were concerned about this factor for student with visual impairment.

The students' access to course content and the use of technology mentioned by the participants was directly related to the ECC. None of the teachers used the exact term ECC; however, they expressed interest with safety and appropriate ways to present information to students with visual impairment. The safety concerns expressed revolved around safe navigation of the classroom, school building, and playground. Teachers

wanted to ensure their classrooms were set up for easy navigation and that there were a reduced amount of obstacles in the paths of these students. Safe navigation and efficient presentation of information are also aspects of a student with visual impairment's day in the academic setting (Lieberman et al., 2014; Rogers, 2007). Presentation of information leads to the second subquestion. Appropriate presentation of materials requires appropriate technology use.

With the second subquestion I addressed how technology has affected the presentation of literacy in the regular classroom setting. A word frequency query and transcript review revealed that the only pieces of technology teachers had used were the copy machine and an iPad. The copy machine was used to enlarged worksheets and text information. They explained they used trial and error to determine how large to make the print or the document for the student. Other teachers needing to provide enlarged print utilized printed materials that were already printed enlarged (e.g., large print books) from their school library or teaching resources. The participants in this study had not used any technology with students with visual impairment such as a refreshable braille display, using the voice over feature on the iPad, or using job access with speech on the computer. Participant 8 stated, "With the use of technology, I don't think there would be any problem at all with enlarging something." This statement indicated the participant was aware there is technology available to assist with modifying text and curriculum; however, they were not aware of what the specific pieces or types of technology may be.

Despite not having the knowledge of available technology, many of the participants mentioned the availability of resources would be helpful with use of braille

and enlarged print in the classroom. Participants also expressed they desired and were more than willing to go through training or collaborate with other professionals to learn technology that could be used with these learners. Evidence of the willingness to have training in technology and available resources would result in effective use of these tools. Throughout the interviews the participants used the term resource vaguely. Their use of the term resource was related to collaboration and literacy materials in addition to types of technology. The participants that used the copy machine to enlarge print reported it was an effective means for enlarging materials. None of the participants mentioned using voice over options, text enlarging features on the computer (e.g., job access with speech), or refreshable braille display options. The responses of the participants supported the problem I identified that there is a lack of training for regular education teachers in relation to meeting the needs of students with visual impairment in their classroom.

In this study, I explored the subquestions related to training and technology to assist with answering the primary research question. None of the participants had received formal training in the area of presenting literacy or technology use to meet the needs of students with visual impairment. The participants explained this training did not take place during their collegiate studies or their professional experience. Without having training, instructing a student with special needs could be a cumbersome task. Although, the higher an individual's self-efficacy is, the more likely they are to overcome challenge (Wang, Hall, et al., 2015). Upon further review and analysis of the data, I found that all of the participants perceived their level of self-efficacy would allow them to overcome the lack of training and knowledge of technology to best meet the needs of the student.

"When I get a child with a disability in some area, I research it to figure out what is the best way to service this child" Participant 8 shared. Participant 6 stated,

> I may not have had a student with visual impairment, but I think my philosophy of teaching is that I will go out and I will find the resources I need that will make myself be able to teach that student.

All 10 of the participants responded that they felt their self-efficacy would influence their ability to teach students with visual impairment, and each of the participants' demonstrated positive self-efficacy. Overall, the participants demonstrated decreased knowledge and experience with the instruction of literacy for students with visual impairment yet their positive self-efficacy appeared to be at a high enough level that they felt they would be able to instruct this population with the proper supports.

Evidence of Trustworthiness

In Chapter 3, I discussed specific ways credibility, transferability, dependability, and confirmability could be established in qualitative research. Member checks were conducted following the transcription of each interview. Utilization of member checks allowed for increased credibility and confirmability of this study. Member checks also facilitated the reduction of researcher bias. I completed a second means of reducing research bias by taking field notes during the interviews. Although I was employed within the school district, I did not directly work within the buildings the participants were recruited from. This factor also reduced experimenter effects. Dependability was established through use of an audit trail. All of the procedures to conduct this study are described throughout this paper and within my IRB application. Participant information,

information of the setting, framework, conceptual framework, and methodology are also richly described. These rich descriptions establish transferability.

Summary

I conducted one-on-one interviews with 10 participants in order to collect the data for this study. The interview data were analyzed by thoroughly reviewing them and conducting word-frequency queries based on the research questions. None of the participants recalled receiving formal training regarding teaching and/or presenting literacy to students with visual impairment, and there was a lack of use of advanced technology with this population. Although there was a lack of training and experience with technology, each participant demonstrated positive self-efficacy, which allowed them to feel confident in their ability to meet the needs of students with a visual impairment. In the next chapter, I will provide my interpretation of these findings and discuss the limitations, my recommendations, and the implications for this study.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

I conducted this qualitative case study in order to gather an in-depth understanding of general education teachers' perceptions of their self-efficacy regarding meeting the literacy needs of students with visual impairment in the general classroom setting. Each of the participants was a current regular education classroom teacher at the elementary level and had no training regarding braille literacy or the instruction of literacy for students with visual impairment. I conducted 10 one-on-one interviews to gather data to analyze for this study. One primary research question and two subquestions were used to explore the teachers' self-efficacy. The primary research question was: How do elementary regular education teachers perceive their own preparedness to meet the literacy needs of students with visual impairment? The two subquestions were:

1. How do regular education teachers perceive the professional development and training opportunities prepared them to incorporate braille and enlarged print into their classroom?

2. How do regular education teachers perceive the advancement in technology affected presentation of literacy materials in the classroom setting?

The regular education teachers in this study acknowledged their limited training and awareness for the literacy needs of students with visual impairment as well as the different types of technology these learners use to access and create literacy materials. Although they lacked training and current knowledge of these things, the teachers were confident they would be able to research, collaborate, and gain the knowledge needed to

effectively instruct these learners. In this section, I will interpret the findings, discuss the implications and limitations of the study, and make further research recommendations.

Interpretation of Findings

In this study, I used the social cognitive theoretical framework to analyze the research data (see Bandura, 1986, 1997). The data collected supported the philosophy of the social cognitive theory. I will describe the data gathered for each research question and relate those findings to the literature in the following subsections.

Interpretation of Research Question

Although all of the participants lacked formal training for working with students with visual impairment, many of them perceived themselves to have strong self-efficacy skills. As I mentioned in Chapter 2, self-efficacy is a determining predictor of motivation to continue with a task (see Wang, Hall, et al., 2015). Self-efficacy is also known to be the belief a teacher has about their ability to carry out a task or provide instruction (Bandura, 1997; Dellinger et al., 2008).

Each of the participants made statements indicating they would research or collaborate to the best of their ability in order to effectively instruct students within this population if they were faced with that situation. This response supports the literature that suggests the higher a person's self-efficacy, the more likely they are to attain challenging goals and effectively evaluate their ability to achieve the goal set (Wang, Hall, et al., 2015). Ajuwon et al. (2015) found college students in university regular education teaching programs were hesitant to teach students with visual impairments when compared to seasoned regular education teachers with training. The participants in this

research study demonstrated experience ranging from 4–21 years of teaching. Each of the more novice teachers spoke just as confident in their ability to instruct these students as the more seasoned teachers did. This may indicate a teacher's perception of their ability to service a child may be more dependent on their self-efficacy rather than their amount of experience.

Interpretation of Subquestion 1

In the data collected during this study, I found that none of the participants, even the participants that had served a student with visual impairment, lacked professional development opportunities in this area. According to the literature, accommodations and modifications in the regular education setting can be a cumbersome task for regular education teachers (Wiazowski, 2012). The participants who served a student with visual impairment indicated making accommodations and modifications was not necessarily a cumbersome task but simply took trial and error. Although they had not received formal professional development, each of the teachers reported collaborating with colleagues to best meet the needs of the student. This collaboration was primarily between the regular education teacher and the special education teacher. None of the participants mentioned working with a TVI. The shortage of TVIs further hinders being able to efficiently and/or effectively collaborate the best way possible when needing to figure something out for a student with a visual impairment. Having a teacher certified to teach students with visually impairment available could have decreased the amount of trial and error attempts the participants encountered.

I would like to point out that in addition to not having professional development opportunities, the participants mentioned not having any formal instruction on this topic during their collegiate studies. Some of the participants had already obtained their master's degree, some were currently working on obtaining their advanced degree, and the remainder had their bachelor's degree. Despite some of them going on for their advanced degree, none of the participants could attest to being adequately instructed in teaching students with visual impairment or students with special needs in general. Participant 3 stated "I don't ever remember talking about that in my undergrad." This finding implies there is a weakness for preparing regular education teachers to instruct learners with special needs in an inclusive classroom setting.

The second factor of this subquestion relates to the use of braille and/or enlarged print. The participants who had instructed a student with visual impairment shared that their student required enlarged print. This finding supports the literature in regard to few students using braille as their primary learning medium (Roe et al., 2014). Many of the participants indicated it was difficult to find enlarged print literacy materials that were both premade and related to the content. This leads to the second subquestion related to technology.

Interpretation of Subquestion 2

When presenting modified or adapted materials to students with visual impairment, assistive technology is commonly used. In Chapter 2, I identified assistive technology as one of the nine components of the ECC (Lieberman et al., 2014; Wolffe & Kelly, 2011). In a research study conducted by D'Andrea (2012), 11 out of 12 students

with visual impairment reported they learned to use technology devices from their regular education teacher, special education teachers, or through a center-based program outside of the school. The participants in this study did not report any use of assistive technology with their learners. In order to enlarge the print materials, the participants either enlarged them using a copy machine or manually typed the information in a document on the computer using a larger font size. The participants also did not recall the students being evaluated to be fitted with a device. Weigand et al. (2013) reported that using appropriately fitted technology devices allows learners with visual impairment to be more independent.

When I asked the participants what would better help them serve students with visual impairment, each of them referenced more training. Regular education teachers appeared to be willing to learn in order to best meet the needs of all of the students in their classrooms. Stakeholders, administrators, and all those involved in an individualized education program team should be mindful and aware of teacher's desire to learn and their need to have structured trainings for working with students with visual impairment and the different aspects of the ECC.

Bandura's (1986) social cognitive theory served as the framework for the study. The focus of the conceptual framework emphasizes that learning occurs through social contexts and observations (Bandura, 1986) and that social experiences and human thoughts have a significant role in providing instruction to learners. The findings of this study indicated many of the teachers are relying on their general positive self-efficacy and self-developed theory of teaching to determine their perceptions of their ability. Even

though many of the participants had not taught a student with a visual impairment, they spoke confidently of their ability to seek resources and collaborate with colleagues in order to teacher these students effectively.

Limitations of the Study

Limitations of research studies are considered to be shortcomings that cannot be controlled by the researcher (Price & Murnan, 2004). In Chapter 1, I identified these possible limitations as the number of regular education teachers who have experience with students with visual impairment, reduced ability to generalize the results to a greater population of regular education teachers or other settings (see Bogdan & Biklen, 2007), and the varied types of learning media (e.g., braille or enlarged print) needs the participants have encountered. After conducting this study, some of these limitations remained and others were added.

One of the limitations remaining true was the number of regular education teachers with experience students with visual impairments. Three of the 10 participants in this study had experience with teaching a child with visual impairment. Therefore, the results of this study are limited for generalization to teachers who have experience with teaching students with visual impairment, and this limited my ability to answer the research questions. The results may relate to other regular education teachers that have not taught a student with visual impairment.

The second suspected limitation related to the varied types of learning media needs the participants encountered. None of the participants had experience with braille.

Each of the participants that had taught a student with visual impairment used enlarged print. This finding further limits the generalization of the findings for the research study.

Recommendations

I recommend the development of a training program targeting how to effectively teach literacy to students with visual impairment for teachers in this setting based on the results of this study. The data showed such a training cycle and/or program would be necessary due to the teachers' lack of prior knowledge of how to provide instruction to this population. This program could be tailored to the needs of the educators at that time and should occur prior to providing instruction and throughout the instruction period as needed. These trainings could be done online by professionals in the field of visual impairment or by district staff with adequate knowledge in this area.

My second recommendation is replication of this study with more participants with experience teaching student with visual impairment. The findings showed each of the teachers felt as if their self-efficacy and philosophy of teaching was developed and were positive enough that they could meet the student's needs. However, since many of them had not served a student with visual impairment, their perceptions of their ability were subjective and were not put to the test. Replication of this study would allow readers and stakeholders to better understand the experiences and support needed for regular education teachers. I also recommend conducting research exploring regular education teachers' perceptions of other specific disabilities present in the regular education setting. Another recommendation is for a study that analyzes the effectiveness of providing professional development for regular education teachers prior to having a student with

visual impairment. This type of study will further assist with knowing how to provide regular education teachers with the education and support they may need when working with students with visual impairment.

Implications

My review of the literature and the participant responses I gathered strongly indicated literacy is at the forefront of topics of interest for providing instruction to students who have visual impairment. The findings also indicated regular education teachers may perceive their skills, specifically related to instruction of literacy for students with visual impairment, as being low. However, their perceptions of their ability to collaborate and find or access resources increased their ability to provide instruction in an inclusive classroom setting. Based on the findings of this study, positive social change can occur by incorporating professional development opportunities for regular education teachers serving students who are visually impaired.

The result of the professional development would be to facilitate social change by increasing knowledge of how to incorporate braille and enlarged print as they teach various aspects of reading. A second result of the professional development would be to effectively utilize these learning media in the classroom with the appropriate pieces of technology. Placing well-trained educators in the general education setting will assist with increasing the self-efficacy of teachers. Another component of positive social change would be to facilitate support for learners' expectations and place them in a better position to obtain employment in their adulthood (see Margraf & Pinquart, 2015). Increasing teachers' prior knowledge of literacy needs of students with visual impairment

boost the use of these tools in the regular education setting and increase the public

school's ability to meet the needs of learners with visual impairment.

Conclusions

I sought to understand the perceptions regular education teachers demonstrated

regarding the literacy needs of students with a visual impairment. The population of

learners who are visually impaired is meager and literacy, especially braille literacy, is a

vital skill for these learners. Over the years the increased inclusion of students with

special needs has required regular education teachers to instruct a wider range of diverse

students. With the increased demand for inclusion, it is vital that stakeholders,

administrators, and educators have awareness about the need for prior knowledge when

instructing learners who are visually impaired as well as those who have special needs.

Based on this research study, trainings and continuing education opportunities should

focus on literacy skills, safety in the academic setting (orientation and mobility), and

technology usage. The data also revealed teachers are more than willing to learn from

colleagues and professionals to do what is best for their learners. By taking advantage of

regular education teachers' willingness and desire to learn, even higher levels of self-

efficacy can potentially be reached for teaching students with visual impairment in the

regular classroom setting.

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Appendix A: Permission Letter

Mr. Xxxxxx Xxxxxxxxx, Superintendent

Dear Mr. Superintendent:

I am seeking your permission to send recruitment letters to the teachers in grades K-5 who fit the criterion for my research study. The purpose of this study is to determine teachers' perceptions of their ability to meet the literacy needs of students with visual impairment. The recruitment letter describes my research project and serves as an invitation for those regular education teachers who have experienced modifying literacy for students with visual impairment, to volunteer as a participant. Before the invitation is sent to potential participants I will obtain IRB approval from Walden University. Teacher participation is completely voluntary and will require one interview approximately 45 minutes in length. All responses shared with this researcher will be recorded and all identifiable information such as proper names and school district will be replaced with pseudonyms or numbers, affording each participant no greater than minimal risk for breach of confidentiality.

As the principal researcher, I will be the only person having access to the audiotapes of the interviews. All notes, documentation, and/or audiotapes will be destroyed within five years from the date of the interviews. Also, know that for any/all of the teachers in your district who choose to participate, he/she will have the right to refuse to answer any question(s) and at any time and may elect to withdraw from this study. The results of this research study will be shared with your school district.

Thank you for your time and consideration in allowing me to forward the invitation to participate to the regular education teachers in your district. Your signature below indicates your consent to forward the invitation to participate. If you have additional questions about any aspect of this research project, please do not hesitate to call or e-mail me at XXXXXXXX.

Respectfully,
Samantha Washington
XXXXXXXX

Appendix B: Invitation to Participate

Hello,

I am Samantha Washington, a doctoral student at Walden University and a speech language pathologist for the XXXXXXXX. You are receiving this e-mail as a request for participation in my study evaluating regular education teachers' perceptions of their ability to meet the literacy needs of students with visual impairment. The purpose of this study is to determine teachers' perceptions of their ability to meet the literacy needs of students with visual impairment. If you agree to be in this study, you will be asked to:

- Participate in a confidential, individual interview lasting approximately 45 minutes.
- Participate in member checks as necessary to assure accurate interpretation of the interview.
- Participate in one follow-up interview lasting 20 minutes if necessary.

I ask for your consideration to participate in this important study. The results of this study will provide the [research site] new knowledge about support regular education teachers may need to instruct students with visual impairment and help fill the gap in literature.

Please contact me for more information or to volunteer for this study via e-mail via XXXXXXXX or call me at XXXXXXXX. Again, thank you for your consideration.

Appendix C: Interview Protocol

Participant Number:_____ Grade Level Taught:_____

Date of Interview:_____ Subject Taught: _____

The purpose of this interview is to further my understanding of your perception of meeting the literacy needs of students with visual impairment. It will contribute to my study evaluating supports regular education teachers may need when instructing learners with visual impairment.

I want to remind you again that this interview is confidential and your identity will remain confidential. Your honesty will be greatly appreciated, and is taken without judgment. Your experiences are valuable and will contribute to this study and the instruction of students with visual impairment. Lastly, your participation is voluntary and you have the right to end this at any time. I will read one question at a time. If you do not understand a question I will be more than willing to clarify it for you. Your responses do you agree to continue?

1. What is your experience with braille and enlarged print? Describe how you used it. Tell me everything about this including who was involved, how decisions were made, what made this process easier and/or more difficult.
2. How would you determine whether a student needed braille or enlarged print?
3. What challenges have you encountered while teaching literacy to students with visual impairment? If you have not worked with a student with visual impairment, what challenges do you foresee in this aspect?
4. Do you think your self-efficacy influences your intention to teach students with visual impairment?
5. What factors would motivate you to use braille and enlarged print?
6. What has your training and/or education in braille or enlarging print involved?
7. If you have worked with a student with visual impairment, do you feel that you use braille and enlarged print effectively? Explain your answer.
8. What has prevented you from using braille or enlarged print more effectively?
9. What has helped you to use braille or enlarged print effectively in the past?
10. Do you have any suggestions for regular education teachers instructing students with visual impairment?