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Effects of Coteaching Instruction Between a Speech Pathologist and First Grade Teachers

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COLLEGE OF EDUCATION

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Abstract

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MA, South Carolina State University, 2004

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The effects of coteaching instruction used by speech language pathologists (SLP) and 1st grade teachers on students' early literacy skills have not been widely examined in current literature. This lack of research may hinder the efforts of SLPs to provide support services for students with and without disabilities who struggle with early literacy skills. Guided by the ecological systems theory, this quasi-experimental study examined the impact of coteaching instruction on students' literacy skills by comparing scores of 2 groups, experimental group who received coteaching and control group who did not receive coteaching instruction. The scores were measured by the final Test of Early Literacy Nonsense Word Fluency Subtest (TELNWFS). A purposeful sampling method was used to select 166 1st grade students as participants. The SLP and 1st grade classroom teachers' use of coteaching instruction served as the treatment or independent variable. The covariate was the scores of the initial TELNWF scores, which was used to control for preexisting reading skills of the participants. The dependent variable was the scores of the final TELNWF. The results of ANCOVA test revealed that there was no significant difference between TELNWF scores of experimental and control group. Implications for positive social change include modifying or reevaluating the use of coteaching instruction between the SLP and 1st grade classroom teachers. This study will help the faculty at the treatment school make informed decisions about instructional models that should or should not be used to address early literacy skills of 1st grade students within the treatment school.

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Dedication

I would like to dedicate this accomplishment to of my family, friends, and peers. I would not have been able to accomplish any of this without each of you playing a significant role throughout my life. Words cannot express how much I love and value each and every one of you.

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I would like to first give thanks to God, through which all things are possible. I would like to thank my husband, Adrian Busch, for always encouraging me to follow my dreams and giving the constant support that I needed when I felt like giving up. I would like to thank my mother, Melva Williams, for never holding me back and always supporting my many endeavors without question and always remaining by my side through success and failure. I would like to thank my professors Dr. Kebritchi and Dr. Shrofel for guiding me through this very tough process; your patience and commitment to my peers and me is greatly appreciated. I would like to thank my brother, Dr. Mervin Williams, for being my inspiration and for always being a great role model throughout my life. I would like to thank my children James Williams, Channing Busch, and all of my family and friends for loving me no matter what. Lastly, I would like to thank all of the students, faculty and staff at the research site for all of your time, help, support, patient, and understanding.

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Section 1: Introduction to the Study

Introduction

Speech language pathologists (SLP) often question how they can meet the needs of students with disabilities and provide support for students who struggle with speech language and learning but do not qualify for services based on standards set by the Individuals With Disabilities Act (IDEA, as amended in 2004; Dockrell, Lindsay, Letchford, & Mackie, 2006; Foster & Miller, 2007). SLP are trained practitioners in the areas of language, phonology, fluency, voice, and other aspects of speech language development (American Speech Language and Hearing Association [ASHA], 2010). According to Paul and Roth (2011) SLP play an integral part in providing services that influence early intervention in the area of early literacy development.

In the public school setting, providing instruction to students with disabilities is very important. In some public schools, SLP work with teachers in classroom settings that have at least one student that meets the criteria of the IDEA (2004; Foster & Miller, 2007). The IDEA stated that students with disabilities should be taught by their teachers or placed within the general education setting or the least restrictive environment (LRE) as much as possible (e.g., the general education setting or classroom), leading to new and innovative classroom instruction models (Hartas, 2004; Nichols et al., 2010). In particular, collaboration using coteaching instruction is made available by specific schools to provide students with and without disabilities the necessary accommodations to be successful in the classroom (Kool & Zigmond, 2008; Nichols et al., 2010). Researchers have described coteaching as instruction that occurs when the regular

education teacher and another educator such as a special education teacher, SLP, or other education specialist work collaboratively within the classroom setting (Friend, Cook, Chamberlain, & Shamberger, 2010; Nichols et al., 2010). Teachers and the above mentioned professionals provide classroom instruction to students with and without disabilities.

There was a need for more research in the area of coteaching instruction. Researchers have not widely addressed first grade students' early literacy skills by examining the SLP and first grade teachers' use of the coteaching instruction model within the classroom setting (Foster & Miller, 2007; Ritzman, Sanger, & Coufal, 2006). Students who have been diagnosed with language and learning disabilities often experience a decrease in reading skills (Foster & Miller, 2007; Hay & Fielding-Barnsley, 2009; Lonigan, et al., 2009) and usually require more prompting, modeling, and cueing when learning academic material than their peers (Hay & Fielding-Barnsley, 2009). Therefore, teachers should consider adjusting their curriculum or collaborating with the SLP or special education teacher to help improve these students' speech language or learning development when in the classroom setting (Hay & Fielding-Barnsley, 2009). This quasi-experimental study took place within an elementary school in the southeastern part of the United States where the SLP and first grade teachers did not provide coteaching instruction to students with and without disabilities.

Many researchers have discussed SLP and various professionals working together. The majority of these researchers have focused on teachers' and SLP attitudes and feelings when establishing collaborative relationships between the two professions

(Paradice, Baily-Wood, Davies, & Salomon, 2007; Starling, Munro, Togher, & Arciuli, 2012; Wright & Kersner, 2004). Forbes and McCartney (2010) focused on interprofessional collaboration policy as it relates to working relationships between educators in Scottish schools and other health professionals working in outside agencies, specifically teachers and SLP. In Scotland, SLP are not located within the school setting and are considered a part of outside health care facilities.

Other researchers such as Lindsey and Dockrell (2002) focused on consultative and inclusive collaborative forms of collaboration. Lindsey and Dockrell chose to focus on the consultative model in which the SLP did not work directly with the classroom teacher. In this consultative capacity, the SLP served as a person the teacher could contact or reference in the event he or she had any questions or concerns about a student's speech language development or learning development.

Ritzman et al. (2006) conducted a case study about one middle school-based SLP who applied coteaching instruction to establish important components of a curriculum-based program that would support the needs of students with disabilities. The SLP modified materials that were specific to the classroom curriculum to meet the needs of students with disabilities and developed curriculum-based instruction (Ritzman et. al, 2006). Then the SLP presented the modified instruction to all of the students with the purpose of providing support for students with disabilities and found that it was also beneficial to students without disabilities (Ritzman et al., 2006). Nevin, Cramer, Voigt, and Salazar (2008) also found that coteaching instruction was beneficial to students without disabilities. In their study, Nevin et al. (2008) reported that all but one general

education student who received coteaching instruction made gains in reading on the State of Florida's high school assessment. The research supported coteaching instruction and it would make perfect sense for the SLP and classroom teachers to work together to ensure success in literacy for all students.

Many questions remain in coteaching instructional research. The study done by Ritzman et al. (2006) supported the use of coteaching instruction but left many questions unanswered as it pertained to students with and without disabilities in the primary setting. Ritzman et al. provided information on advantages and disadvantages of coteaching instruction, such as improving student progress on standardized district assessments. However, Ritzman et al. did not prove or disprove the effects of coteaching instruction when providing support for students with and without disabilities who are struggling readers. These factors are important because the literacy skills of students in first grade can predict reading difficulties in later grades (Foster & Miller, 2007). Foster and Miller (2007) reported that reading difficulties could also be an early indicator of possible speech language or learning disabilities. These findings would support the need for early intervention, which may decrease the need for special education services in later grades

Ritzman et al. (2006) stated that SLP and classroom teachers possess the skills necessary to assist students with disabilities and that instruction through collaborative teaming can be used to accommodate these students' needs. Appropriate literacy skills serve as the base for developing other knowledge throughout life (Lonigan et al., 2009). Elementary school teachers have the major responsibility of educating students and helping them acquire literacy skills that help prepare them for future success in reading

(Beauchat, Blamey, & Walpole, 2009). As such, teachers who teach in the primary setting have started to reemphasize the importance of early literacy instruction (Lee & Ginsburg, 2007). Researchers have suggested that children who have difficulty learning to read in preschool and primary grades will continue to do so as they matriculate to higher grades (Corriveau, Goswami, & Thomson, 2010; MacDonald & Figueredo, 2010). Students who have acquired literacy skills when entering school usually adapt to the curriculum better than students who have not acquired these skills prior to entering school (Foster & Miller, 2007). Wren (2003) stated that only about 13% of students who struggle with reading in the primary grades are successful past the fourth grade when they have received interventions that focus on literacy. Thus, schools should avoid waiting too long to provide support for literacy intervention to students who struggle with reading early on (Foster & Miller, 2007).

Ultimately, first grade literacy skills can be an indicator of reading skills in later grades and reading difficulty has been connected to other speech language and learning disabilities; early intervention of these delayed developing literacy skills could lessen the need for special education services in later grades (Foster & Miller, 2007). Thus, preventative or early interventions such as the use of SLP consultation, collaboration, curriculum modification, and coteaching instruction must be the main focus of discussion for students with disabilities and those who are at risk for developing speech language and learning disabilities (Rinaldi, Rodgers-Adkinson, & Arora, 2009). Researchers have shown that educators implementing instruction using the coteaching instruction model has been challenging, but has consistently benefited students with and without disabilities

when done between the general education teacher and the special education teacher (Friend et al., 2010; Nevin et al., 2008; Ritzman et al., 2006). Researchers have failed to find that SLP who use coteaching instruction are more effective than any other service delivery model (Friend et al., 2010; Kloo & Zigmond; Ritzman et al., 2006). Kloo and Zigmond (2008) reported that students without disabilities who may be at risk for developmental delays benefited from coteaching instruction because it allowed the students to have more access to developmentally matched curriculum provided by the special education teacher.

In the elementary school where this study took place, the SLP and first grade teachers did not work together to address the needs of all first grade students, and coteaching instruction may have been a solution. All SLP have a vast knowledge of speech and language development, and teachers in this school were often unaware of the asset SLP could be to them and their students with and without disabilities (Pena & Quinn, 2003). The teachers and SLP at the elementary school that I used for this study had never collaborated using coteaching instruction, leaving several questions about the effectiveness of early intervention and services that were being provided to all students. As a result, the SLP and first grade teachers' lack of collaboration could have hindered students without disabilities who struggled with early literacy development that went unnoticed for years. Furthermore, students with disabilities were not receiving appropriate support across the curriculum by educators' applying strategies and using varying forms of instruction (Kloo & Zigmond, 2008; Paradice et al., 2007). Kloo and Zigmond (2008) also stated that students without disabilities who were at risk for speech

language and learning delays were not aware of additional academic support that the special education teacher could provide. Lastly, the students were not carrying learning between direct services that took place in the special education classroom and academic lessons that took place to reinforce the learning goals and objectives in the general classroom setting (Pena & Quinn, 2003). The school in this study adopted coteaching instruction between the SLP and first grade teachers. Thus, there was a need to examine the effect of SLP and first grade teachers' use of coteaching instruction on early literacy of the students in the study local school. Further discussion and specific forms of coteaching instruction appears in Section 2.

Problem Statement

Scholars and educators knew little about the effect of the SLP and first grade teachers' use of coteaching instruction on early literacy skills of students with and without disabilities who attended the local school in this study. The SLP and first grade teachers in the elementary school described in this study did not collaborate; therefore, they were putting students with and without disabilities at a disadvantage by unintentionally blocking early intervention and identification of students who struggled with early literacy skills. The SLP and first grade teachers' lack of coteaching instruction in the area of phonological awareness could have affected the performance gap between the students with and without disabilities who were at risk for developmental speech language or learning delays and who struggled with early literacy skills versus students who did not (Foster & Miller, 2007). Collaborative work among teachers and SLP had the potential to benefit students with and without disabilities (Bauer, Iyer, Boon, & Fore,

2010; Friend et al., 2010; O'Toole & Kirkpatrick, 2007). It is important for these professionals to work together so that the students with and without disabilities were afforded every opportunity to be successful in all areas of the school environment (Bauer et al., 2010). Research showed that professionals who have collaborative interactions gained understanding and respect for one another's individual expertise while combining efforts to maximize intervention results (Baxter, Brookes, Bianchi, Rashid, & Hay, 2009). In this study, collaboration and early intervention were the focus for all students who were in the experimental group.

In this quasi-experimental study, the treatment school adopted coteaching instruction between the SLP and first grade teachers. I examined the effects of the SLP and first grade teachers' use of coteaching instruction on students' early literacy skills based on data taken from the AIMSweb Test of Early Literacy Nonsense Word Fluency Subtest (TELNWFS). An analysis of covariance (ANCOVA) was used to analyze the data. The independent variable was the type of instruction. The covariate was the TELNWFS pretest data obtained before instruction, and the dependent variable was the TELNWFS posttest data obtained at the end of the study.

Researchers had shown that there was a direct relationship between phonemic awareness skills development in first grade and reading difficulties in later grades (Foster & Miller, 2007; Shaughnessy & Sanger, 2005). This study contributed to the body of knowledge by adding another dimension to collaboration literature by the SLP measuring the effects of first grade student's performance in the area of phonemic awareness, which affects early literacy skills (Foster & Miller, 2007). The SLP and first grade teachers

used coteaching instruction as a means of addressing early literacy development of first grade students.

Nature of the Study

A quasi-experimental design was used to answer the research questions. When selecting the quasi-experimental method for this study, I had to consider several aspects of the type of research. I knew that there would be control and experimental groups and that these groups would be readily available due to scheduling done by school administration during the summer months. The quasi-experimental design involved nonrandom purposeful sampling, which Creswell (2009) described as a method of selecting participants that the researcher has to choose from who are already available for the study. I examined the effects of the SLP and first grade teachers' use of coteaching instruction. The SLP and first grade teachers used the sounds in motion (SIM) program as the instruction. The SLP analyzed the data from the AIMSweb assessment tool TELNWFS. The SIM program was collaborative in nature and was used with kindergarten and first grade students (Santore, 2006). The SIM program had been used by SLP as an instructional instrument that had helped identify students with and without disabilities who experience specific difficulties with phonemic awareness (Santore, 2006). This program included a combination of body movements, requiring the use of hands, arms, and sometimes the entire body when differentiating the sound production of consonants and vowels that most students often mispronounce or confuse when they are applying these consonants to spelling and reading (Santore, 2006). Authors of several studies stated that students who were at risk for speech language and learning difficulties

increased academic performance when learning through a "hands on" kinesthetic approach (Block, Parris, & Whiteley, 2008; Honigsfeld & Dunn, 2009, p. 221). The SLP and first grade teachers used the SIM instruction to focus on phonological awareness as it related to early literacy. The technical review committee of the National Center on Response to Intervention (as cited in Pearson, 2009) has deemed the AIMSweb assessment tool reliable and valid as a curriculum-based and data-driven progress monitoring tool that measures progress of early literacy skills over time. There were 10 classes with 166 first grade students. These first grade classes were divided into one experimental and one control group with no possibility for random assignment.

Research Questions

The research questions and associated hypotheses were as follows:

Research Question 1: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction and first grade students with disabilities in the control group who did not receive coteaching instruction?

Null Hypothesis 1: There was no significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction and first grade students with disabilities in the control group who did not receive coteaching instruction.

Alternative Hypothesis 1: There was a significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who

received coteaching instruction and first grade students with disabilities in the control group who did not receive coteaching instruction.

Research Question 2: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction?

Null Hypothesis 2: There were no significant performance differences between the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction.

Alternative Hypothesis 2: There was significant performance differences between the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction.

Purpose of the Study

The purpose of this quasi-experimental design was to explore the effects of the SLP and first grade teachers' use of coteaching instruction. Phonemic awareness was the main early literacy skill assessed in this study because researchers have suggested that phonemic awareness is the skill that has an effect on early literacy development (Foster & Miller, 2007; Hay & Fielding- Barnsley, 2009; Lonigan et al., 2009; MacDonald & Figueredo, 2010). This study was significant because it contributed to the ongoing

research dealing with collaboration, the effects of early intervention, and early identification. It introduced a new form of instruction to an elementary school in the southeastern part of the United States. It allowed classroom teachers to collaborate with the SLP through the use of coteaching instruction to address the needs of students with and without disabilities. This also allowed the SLP to have access to students with disabilities who struggled in the classroom and to students without disabilities who may have been at risk for speech language and learning disabilities.

Theoretical Framework

Communities of instruction and learning encompass a variety of forms of collaboration where people are working towards a common goal (Gajda & Koliba, 2007, pp. 26-27). Institutions of learning, such as primary and secondary schools, colleges, and universities, should facilitate conversation between various professionals and come together by collaborating to help students achieve (Schmidt, Thomas, Johnson, Mitchell, & Thomas, 2009). This interaction provides opportunities for individuals to research various ideas and perspectives and creates opportunities to connect social interaction amongst professionals (Schmidt et al., 2009). The theoretical framework of this study was based on Bronfenbrenner's (1995) ecological systems theory model (ESTM). Bronfenbrenner's model was used to analyze human development as it related to the environment through processes of development over a specified period of time.

Bronfenbrenner (1995) described proximal processes as "mechanisms of development" in which any person, object, or symbol within the environment interacts (pp. 602, 638). Various educational researchers have used a system style approach, such

as McCartney (1998), who studied the factors of collaboration that keep SLP and teachers from working together. Rvachew and Bernhardt (2010) studied phonological development and the goals that SLP used to treat sound disorders of students with disabilities. Johnson (2008), Leu (2008), Singal (2006), and Staden, Tolmie, and Badenhorst (2009) used the ESTM as a theoretical framework. Johnson (2008) and Singal (2006) used ESTM in the area of education and found that it could be used as a theoretical base not only for human development, but also for organizational development through collaboration. Johnson mentioned that ESTM could relate to education collaboration by helping to understand the process and development of systems in schools.

This study provided instruction through the use of CT, which involved educators working together to enhance student outcomes. ESTM is comprised of five smaller systems: (a) the microsystem, (b) the mesosystem, (c) the exosystem, (d) the macrosystem, and (e) the chronosystem (Bronfenbrenner, 1994; Johnson, 2008). The microsystem involves patterns of interactions between people or groups of people with each other, and the mesosystem is used to measure all of the things that surround the people or groups of people involved in the microsystems, whether it is other people or environmental factors (Bronfenbrenner, 1994; Johnson, 2008). The microsystem as it related to this study and coteaching included the students, teachers, and the SLP. The mesosystem included the administrators, parents, and the school environment. The chronosystem represented the breakdown of the developmental process over a period of time, and how the participants reacted to the change and or treatment over this period of

time that was associated with collaboration (Bronfenbrenner, 1995; Johnson, 2008). The instruction related to the chronosystem through the daily workings of the school environment's development and changes over the course of the school year (Johnson, 2008) and coteaching instruction was related to the proximal process as it related to the SLP and teachers working relationship throughout this study (Bronfenbrenner, 1995). According to the ESTM, a child's environment influences his or her development over a period of time, and this model was used in this study to help develop a framework for establishing collaborative interaction through instruction between the SLP and first grade teachers.

Definition of Terms

Coteaching: The general or regular education teacher and another educator, such as a special education teacher, SLP, or other specialist come together to provide instruction to students with disabilities within the classroom setting (Friend et al., 2010; Nichols et al., 2010).

Emergent literacy skills: Skills that are predictive of future reading and writing abilities (Lonigan et al., 2009).

Language: A multifaceted system of specific symbols used to communicate (ASHA, 1982, para. 3).

Literacy: A person's ability to become proficient at reading, writing, and speaking in order for them to become a productive citizen in life (Ntiri, 2009).

Phonemic awareness: A set of skills that fuses all aspects of sound and word formation by putting sounds together to form words and take sounds away to create new words as a part of a specific language (Corriveau et al., 2010).

SLP: A person who is qualified to diagnose, prognose, prescribe and/or remediate speech and/or language disorders (ASHA, 2010).

Assumptions

It was assumed that each teacher would participate during the study. It was assumed that because all of the teachers were considered highly qualified, they would all have the same effect on student performance within the classroom settings. It was also assumed that all of the students would be present to participate during each week of the lessons.

Scope, Limitations, and Delimitations

The boundaries of this study were limited to only one elementary school's student body, faculty, and staff in the southeastern part of the United States. The sample participants in this study included 166 students in 10 first grade classes and the SLP. Nonrandomized purposeful sampling was used because the classes were chosen based on the students' grade level. Generalization of this study was limited due to using nonrandom sampling method.

Several extraneous variables affecting students' TELNWFS scores, such as socioeconomic status, age, gender, and ethnicity, may have interfered with the results of the study. To control the effect of these variables, the TELNWFS scores of students before entering the quasi-experimental study were considered as the covariate.

Significance of the Study

Local Application

This study addressed the local problem by allowing the SLP and first grade teachers to explore whether the use of coteaching instruction would be effective in addressing first grade students' early literacy skills.

Professional Application

In this study, I examined the effect of the SLP and first grade teachers' use of coteaching instruction on students' early literacy skills. The results of the study showed no significant difference. In this study, the SLP and classroom teacher used the SIM program as the treatment. The results of this study indicated that the form of treatment was not effective when measuring the students' performance on the final TELNWFS. This outcome could lead to the SLP and classroom teachers continuing to work on developing literacy skills in their separate settings. This outcome could also lead the SLP to develop alternative ways to address students' developmental literacy skills.

Social Change

Positive social change included modifying or reevaluating the use of coteaching instruction between the SLP and first grade teachers. The results of this study did not show any significant difference which could lead to the treatment school making informed decisions about what instructional models should or should not be utilized when addressing first grade students early literacy skills.

Summary and Transition

There is an abundance of research supporting early literacy development and how early literacy relates to phonemic awareness. With this information, it is imperative that SLP be involved in literacy development within the school setting. The problem I address in this study was the lack of knowledge about the effects of the SLP and first grade teachers using coteaching instruction to help develop early literacy skills of students with and without disabilities.

Section 2, the literature review, includes information pertaining to factors that affect early literacy development, such as phonological development and interventions that have been developed to help students with disabilities and students who are at risk for speech language and learning disabilities that struggle with early literacy skills. Section 2 also includes more in-depth information about Bronfenbrenner's (1995) ESTM and how it served as the theoretical framework in this study for understanding the process and interaction involved in coteaching instruction. Section 3 describes the methodology, including the research design and approach, setting and sample, description of treatment, instrumentation and materials, data collection and analysis, and a summary of the measures of protection for participants. Section 3 also includes the quasi-experimental design and the ANCOVA test, which was used to help answer the research questions. Section 3 provides detailed information about participant participation and rights throughout this study. Section 4 presents a description of and discussion of the findings, and Section 5 provides a summary of the study and discussion about possible future studies.

Section 2: Literature Review

Introduction

Section 2 outlined the background information about coteaching, the theoretical framework, previous studies, literature related to studies that used the same method as this one and studies that used methods that were different. The process of gathering literature for this section involved using Walden's online library services, the public library in the local community of the research site, and Internet sources. The types of resources included the public library's main and shared databases, ERIC, education research complete, SAGE, Google scholar, and Walden library eBooks. I found journal articles, books, brochures, manuals, and websites. When searching I was able to obtain slightly more than 40 articles that related directly to specific parts of the study. Information on the study was very limited because research in the area of coteaching between classroom teachers and speech therapists was either fairly new or had been researched by only a few individuals over time. The key words for searching the literature were *coteaching, collaboration, early literacy, phonological awareness, instruction, ecological systems theory model (ESTM),* and *students with disabilities.* There were several articles that provided general information about the key terms separately, but the sources that are presented in this section were chosen because they provided the information that most closely related to the study.

Background

Collaboration and Coteaching

Collaborative instruction benefits all students. Several studies reported that students with and without disabilities benefited from coteaching instruction (Houston & Perigoe, 2010; Kloo & Zigmond, 2008; McConnellogue, 2011). For the last 15 to 20 years in the area of speech language services, there has been resistance towards the traditional pullout service model that SLP usually use when providing therapy (Hartas, 2004, p. 35). The SLP using the pullout model is the most common form of special education service and has been used as the primary treatment model for students with disabilities in schools for years (Hartas, 2004; Ritzman et al., 2006). Hartas (2004) argued that the pullout model was not the most practical method because the students who were being pulled out of class for services often missed portions of their academic lesson within the classroom setting. The time missed from class potentially put the students at risk of falling behind their peers in the subject being taught (Hartas, 2004). Case-Smith and Holland (2009) also reported that pulling students with disabilities out of the classroom setting has little benefit when they are learning new skills and behaviors. The other issue with the pullout model is that the SLP language lessons may not always have a curriculum-base (Hartas, 2004, p. 35). Due to these and other issues, there has been a movement to include SLP and other health care professionals in the classroom setting through the use of coteaching instruction (Hartas, 2004). As teachers begin to implement instruction that benefits all students, the need becomes greater for collaboration amongst educators (Murawski & Hughes, 2009).

Collaboration is a necessity in all areas of education (Gajda & Koliba, 2007; Helterbran, 2008). The specifics of collaboration through collegial interaction encourage professional growth among peers while improving academic outcomes for students with and without disabilities (Gates & Robinson, 2009). Conoley and Conoley (2010) argued that the leaders of the educational institutions can foster successful relationships between all stakeholders by promoting collaboration within the institution. The majority of every level of educational institution promoted interaction or the development of relationships amongst peers through collaboration and had hailed the collaborative approach "as the most powerful strategy for sustained, substantive school improvement" (Gajda & Koliba, 2007, p. 27). Collaboration is set up to provide students with disabilities accommodations to be successful within the classroom setting (Nichols et al., 2010). With the current research, I attempted to explain and answer questions about the SLP and first grade teachers' use of coteaching instruction.

Researchers have defined collaborative forms of instruction such as coteaching instruction as a "dynamic system for educational efforts that support collegial, interdependent and coequal styles of interaction to achieve common goals" (Hartas, 2004, p. 34). Teacher and SLP instruction within the educational setting comes in many forms, such as team teaching, consultation, cooperative learning, collaborative learning, professional community, instructional consultation, inclusion, and coteaching just to name a few (Bauer et al., 2010; Chamberlin-Quinlisk, 2010; Friend et al., 2010; Gnadinger, 2008; Griffin, Jones, & Kilgore, 2006; Levine, 2010; Nichols et al., 2010; Walther-Thomas, 1997). Team teaching as described by Friend et al., (2010) is when two

educators who are specialized in teaching the same content work together to share teaching responsibilities for all students in a class. The consultation model takes place when the SLP or special educator provides educational information about students with disabilities to the classroom teacher to help those students be more successful within the classroom setting (Hartas, 2004; Ritzman et al., 2006). The consultation model has increased amongst special educators, SLP, classroom teachers, and other health professionals (Ritzman et al., 2006; Wright & Kersner, 2004). Consultation does not usually occur in a single setting, but over many settings between many professionals (Ritzman et al., 2006). This form of instruction is usually done on an indirect basis (Hartas, 2004). Cooperative teaching allows educators to learn together by collaborating with each other to improve their professional abilities in the areas of collegial relationships, instruction, and professional development (Chamberlin-Quinlisk, 2010). Cooperative teaching allows multiple teachers to be in the classroom at one time to address the needs of all students (Chamberlin-Quinlisk, 2010).

A professional community can be comprised of a group of teachers or an entire school that work together to improve social and academic outcomes of all students (Levine, 2010). These communities utilize several collaborative instruction models depending on their school structure and population (Levine, 2010). Educators who are experts in differing areas are required to come together for the purpose of planning instruction that combines both areas of expertise that can be beneficial to all students when implementing instructional consultation (Wolcott, 1996). This form of instruction is an indirect approach similar to the consultation model (Hartas, 2004; Wolcott, 1996).

The coteaching model of instruction requires a general education and special education teacher to work together within the general education setting using an inclusive model to provide instruction to students with disabilities (Friend et al., 2010).

In this study, only the SLP and first grade teachers in the experimental group used the coteaching model of instruction.

The special education teacher or specialist such as the SLP, reading interventionist, or counselor is required to work with the classroom teacher inside of the classroom setting to provide instruction to students with disabilities or students with other exceptional needs when using coteaching instruction (Friend et al., 2010). This type of instruction used by educators allowed students to be successful in the classroom setting (Friend et al., 2010; Nichols et al., 2010; Walther-Thomas, 1997). Kloo and Zigmond (2008) reported that students without disabilities who were at risk for developmental delays benefited from coteaching instruction because it allowed them to have more access to developmentally matched curriculum provided by the special education teacher. In this study, the SLP worked directly with the first grade teacher within the classroom setting to address the needs of students with and without disabilities, thus making it the best choice for this study.

Based on research by Friend et al. (2010), there are six variations of coteaching instruction:

- One teach, one observe is when one teacher is responsible for instruction and the other is responsible for taking data,
- Station teaching is when both teacher and specialist/special education teacher

are arranged at a station and the students will rotate through the stations working with the educator at that station until they rotate to the next station,

- Parallel teaching is when the educators split the classroom in half and administer the exact same content to the two groups of students,
- Alternative teaching is when a small group of students is pulled to a table within the classroom by one of the educators to work on specific skills that the group of students may have struggled with when they were in the whole group,
- Teaming is when both educators are responsible for instructing the entire class at the same time, and
- One teaches, one assists, this is when one educator is responsible for instruction and the other educator is walking around monitoring learning by assisting students and reiterating what is being taught.

The SLP and first grade classroom teacher used the one teaches, one assist coteaching instruction model throughout the study due to the parameters of the SIM program. The SIM program required the SLP to provide the initial instruction for the lessons and the teacher reinforced the skills being taught to the students while the lesson was going on. This allowed students to continue to use the skills that had been taught when the SLP was not in the classroom for carryover and practice until the SLP came in to do the next lesson.

Learning communities and institutions such as schools encompass all of the aforementioned forms of collaboration within their organizations where every individual

is responsible for working together to ensure the success of the organization and all of its stake holders (Gajda & Koliba, 2007). Collaboration offers diversity and diversity is a means of offering an avenue for change in schools for all students (Gates & Robinson, 2009, p. 147). Currently, there is very little research on the effects of the SLP and teachers using coteaching instruction within the classroom setting. In general, there is even less research on this topic pertaining to the SLP working within the classroom setting with first grade teachers targeting phonemic awareness skills that could potentially affect early literacy development.

Early Literacy Development and Phonemic Awareness

Within classrooms in the United States, there was a mounting concern with the reading levels of students with and without disabilities (Ukrainetz, Ross, & Harm, 2009), and it was becoming more evident that the achievement gap in literacy needed to be addressed in school early on (Foster & Miller, 2007). When it came to early literacy, researchers supported the fact that numerous children began their school years far behind their more "advantaged and typically developing peers" and over time the academic performance gap continued to grow (Foster & Miller, 2007, p. 173; MacDonald & Figueredo, 2010). Academic performance gaps in students can be identified early when it comes to reading as evidenced by their early literacy skills (MacDonald & Figueredo, 2010). Several researchers argued that spoken language is the "foundation of literacy" and it can be directly related to phonemic awareness development (Corriveau et al., 2010; Foster & Miller, 2007; Hay & Fielding-Barnsley, 2009; MacDonald & Figueredo, 2010 pp. 405; Ukrainetz et al., 2009). Lewis et al. defined phonemic awareness as being able

to produce sounds in words while being aware of the sound pattern as it relates to language structure (2011). Ukrainetz et al. (2009) stated that more educators have applied innovative models for reading instruction across the United States, SLP are encouraged to be available to supplement instruction and promote phonemic awareness for students that have difficulty reading but do not necessarily have a documented speech language disability.

ASHA (as cited in Shaughnessy & Sanger, 2005) recommended that SLP contribute and take part in the "development of literacy in young children" (p. 68). Wankoff (2011) stated that disabilities can be a warning sign of other speech language and learning disabilities. Therefore, through assessment and therapy, SLP are usually the first special education professional that comes in contact with a student at risk for developing a speech language or learning disability (Foster & Miller, 2007). The implementation of early interventions by the SLP and the use of strategies that focus on speech language and learning development are vital for students' to succeed with early literacy (Foster& Miller, 2007). Educators need to address early intervention for students with documented and undocumented speech language and learning disabilities.

Theoretical Framework

Ecological Systems Theory

Kahn et al. (2009) stated that in order for change to be effective, organizations must work as a system recognizing the importance of the relationships between their parts. The ecological systems theory looks at human development over a specified period of time. Bronfenbrenner developed the ESTM and its processes in the 1970s

(Bronfenbrenner, 1995). It is comprised of five systems (a) the microsystem, (b) the mesosystem, (c) the exosystem, (d) the macrosystem and (e) the chronosystem (Bronfenbrenner, 1994; Johnson, 2008). The microsystem examines the patterns of interactions between people or smaller groups in a particular setting at a particular time (Bronfenbrenner, 1994). The mesosystem examines the relationships that take place between the people or small groups that make up the microsystem, as Bronfenbrenner (1994) stated, "A mesosystem is a system of microsystems" (p. 40). The exosystem is the relationship that take place between the microsystem and the mesosystem with the mesosystem being an outside entity that has nothing to do with the particular microsystem but influences the immediate setting that the microsystem is a part of (Bronfenbrenner, 1994). The macrosystem brings all of the first three systems together creating somewhat of a "societal blue print for a particular culture" (Bronfenbrenner, 1994, p. 40). The chronosystem will examine change throughout the relationships between the systems or the development of the person or small groups over a specific time period (Bronfenbrenner, 1994).

This theory also encompasses two propositions that help to develop the "biological paradigm" (Bronfenbrenner, 1994 p. 38). Bronfenbrenner (1995) described the biological paradigm as a course of human development through interaction over time. He defined the properties of the biological paradigm through the two propositions listed below.

Proposition 1. Human development that takes place through processes. These processes progress to more complex cyclical interactions between people in or around

their immediate environment. In order for the process to have any type of effect, the person's interaction must be ongoing for a specified amount of time. These forms of interaction in the person's environment are referred to as "proximal processes" (PP; Bronfenbrenner, 1995, pp. 620). Examples of PP are found when people interact with each other or their environment by engaging in certain operations, working in groups or by simply being by themselves while participating in specific activities (Bronfenbrenner, 1995, p. 620). Bronfenbrenner stated that PPs are "mechanisms of development" (1995, pp. 620, 638).

Proposition 2. Encompasses the "form, power, content, and direction" of the PPs that affect a person and their interaction with the environment while considering the processes themselves and the outcome effect (Bronfenbrenner, 1995, p. 621).

When using the ESTM to investigate a hypothesis that has been developed for a study, Bronfenbrenner suggested using a research design that investigates both propositions at the same time through the use of a research design called a "process-person-context-time" model (PPCT; Bronfenbrenner,1995, p. 38). This PPCT research design serves as a model for the purpose of investigating a hypothesis dealing with systematic development over time. This study focused on proposition one because it comprises development over time and interaction between the developing entities over that specified period of time. The elements of the PPCT model were broken down in the following manner; (a) Process was the SLP and first grade teachers use of coteaching instruction with the outcomes being determined by the final positive social change include modifying or reevaluating the use of coteaching instruction between the SLP and

first grade teachers. This study will help the faculty at the treatment school make informed decisions about instructional models that should or should not be used to address early literacy skills of first grade students within the treatment school. The TELNWFS given to the control and experimental groups, (b) Person pertained to the students involved in the study, (c) Context was the development and student performance, and (d) Time was represented by the 15 week time frame.

The rationale for using this model is related to organizational development as demonstrated by several previous studies. Xu and Filler (2008) stated that the ESTM is critical when introducing an inclusive model of education for all students (e.g., coteaching model of instruction). They argued that the systems involved in the ESTM allow for observation and examination of changes over time, which is important in order for the educational program to be effective. Barab and Roth (2006) used the ESTM as a research model to investigate learning and participation. Barb and Roth used affordance networks as the system and life worlds as the setting, they focused on a "curriculum-based ecosystem" (Barab & Roth, 2006, p. 7). An affordance network is defined by Barb and Roth as having the potential or possibility of interaction over time and life worlds is defined as the environment. Barab and Roth stated that the only way to give meaning to action is through the interaction of the individual and the environment. They argued that when students learned, there should be some type of relationship between what is learned and its real world value; otherwise the learning would have no significant effect on the students when they interacted within the world (Barab & Roth, 2006). Leonard (2011) used the ESTM to investigate partnership between the school and

community. He focused on students' development and culture reform and how the relationships between the school and community affected students' success (Leonard, 2011). Lastly, Swick and Williams (2006) investigated family structure and stressors that may cause the family structure to be unstable. They focused on all five systems and connected them to the relationships within the family dynamic. Swick and Williams concluded that childhood educators should offer support and advocate for families as much as possible (Swick & Williams, 2006). Leu (2008) investigated music education in Taiwan using the ESTM as a catalyst to show that there needed to be more legislation and reform in education at every level and discipline. Throughout her study, she referred to each of the five sections of the ESTM and related them to a specific part of the developing child's environment (Leu, 2008). Leu (2008) began with music education development in the microsystem and eventually ends with educational policies and reform in Taiwan in the macrosystem.

According to Johnson (2008) the ESTM was established through an effort by Bronfenbrenner to comprehend human development. Although Bronfenbrenner's ESTM was formed based on a "biological paradigm" (Bronfenbrenner, 1995, p. 620), Johnson (2008) stated that it can be applied to organization development, schools in particular because of their "complex systems" (p. 2). The ecological systems framework developed by Bronfenbrenner can be used to examine education, the development of the educational systems, and the development of the individuals involved (Singal, 2006, p. 240). The microsystem, mesosystem, and chronosystem were the focus of this study. Each of these

systems is an area of development that closely matched the needs of this quasi-experimental study.

This quasi-experimental study was very small and located in one school in the southeastern part of the United States, the three systems mentioned maintained the focus of the research on the smaller parts of the system; personal interaction, group interaction, and time. The exosystem requires the involvement of both internal and external entities and the macrosystem is the largest and requires the microsystem, mesosystem, and the exosystem to be in place in order to for its system to be determined (Bronfenbrenner, 1994; Johnson, 2008). Therefore, the exosystem and the macrosystem were not addressed in this study. The microsystem was made up of the SLP and classroom teachers' classes. The mesosystem was the entire school that surrounded these microsystems and brought them all together, and the 15 weeks that are required for the SIM instruction portion of the study served as the chronosystem, because this system examines development over a specified period of time.

Previous Studies

There have been previous studies done that examine the effect of collaborative teaching including, but are not limited to; Ritzman et al. (2006), Dockrell et al. (2006), Forbes and McCartney (2010), Paradice et al. (2007), and Wilson, Nash, and Earl (2010). All of the studies mentioned above are very different, but they all investigated the same concept, the SLP and classroom teachers involved in various forms of collaboration. However, only Ritzman et al. investigated the SLP and middle school classroom

teachers' use of coteaching instruction with a specific focus of addressing speech language goals within the classroom setting.

Teachers and the SLP are available within the public school setting to assist students with disabilities. Ritzman et al. (2006) suggested the use of coteaching through collaborative teaming and instruction as the best method to accommodate students with disabilities needs. Ritzman's et al. case study investigated the SLP and classroom teachers' use of coteaching instruction along with several other forms of service delivery at the middle school level. This case study focused on adapting the classroom curriculum to meet the needs of students with disabilities who were struggling within the classroom setting in the areas of English language arts or mathematics (Ritzman et al., 2006). The SLP used coteaching instruction in this case study several different ways, and as a modification for the introduction of academic material to students with disabilities (Ritzman et al., 2006). The SLP used several service delivery methods when working with the 35 middle school students (Ritzman et al., 2006). The SLP developed several ideas throughout this study and the researcher defined the ideas as themes for coteaching instruction. The themes included (a) service delivery, (b) curriculum-based intervention, (c) scheduling, (d) collaboration, and (e) advocacy (Ritzman et al., 2006). The researcher concluded that considering the themes was important when implementing coteaching instruction within the classroom setting.

The study done by Dockrell et al. (2006) examined the effectiveness of language interventions in primary schools. Dockrell et al. stated that developing strategies for students with disabilities "must be ecologically valid" so that they are appropriate for

each individual student and their individual needs (p. 438). Forbes and McCartney (2010) also investigated policy as it pertained to service delivery. They focused on interprofessional working relationships using the social capital theory (Forbes & McCartney, 2010). They argued that the establishment of working relationships amongst professionals from varying background (e.g., SLP and teacher) would benefit the clients that receive services and that these relationships had the potential to reform policies (Forbes & McCartney, 2010). Paradice et al. (2007) did a pilot study in the UK with SLP and teachers. In the Paradice et al. study, the SLP worked with an outside health agency and had to come into the schools to do trainings with the teachers to help them understand speech language difficulties and how to address the needs of students with disabilities. Paradice et al. concluded that many of their objectives were achieved and their evidence supported collaborative practices within the work environment. Wilson et al. (2010) investigated the SLP and teachers use of collaboration in secondary schools. The SLP and teacher focused on teaching vocabulary skills. The SLP served as a consultant to the teacher and they collaborated through planning (Wilson et al., 2010). The researchers found that there was a positive outcome of vocabulary skills for students who participated in the collaborative service delivery, but further research needed in order to examine teacher practice related to collaborative practices and learning vocabulary.

In conclusion, there was not enough research on the SLP and classroom teachers working together using coteaching instruction despite the fact that all of the articles above support collaboration between professionals and its benefits for all students.

Literature Related to Method

In this subsection, there are several quantitative experimental and quasi-experimental studies related to coteaching and instruction including Baxter et al. (2009), Dockrell et al. (2006), Hutchinson and Clegg (2011), and Shaughnessy and Sanger (2005). However, these studies did not address the specific concerns of the current study as it related to the SLP and first grade teachers' use of coteaching instruction.

Hutchinson and Clegg (2011) stated that often children of low economic status are not referred for special education intervention, leaving intervention solely up to the classroom teachers once the child begins school. These children often have below average speech language and learning skills (Hutchinson & Clegg, 2011). Hutchinson and Clegg felt that there was not enough information available in the literature about the effectiveness of speech language intervention done by the SLP within the educational setting and decided to test the effectiveness of language intervention using the Let's Talk Program (LTP). In this quantitative study, the experimental group consisted of 12 participants from a primary school and the control group consisted of 12 participants from a different primary school. The experimental group received interventions cotaught by the classroom teacher and teacher assistant and the control group did not receive any intervention. A repeated measures analysis was completed using the groups' pre and posttest scores from the LTP's expressive and receptive standardized language assessment. The researcher used the expressive language assessment to examine the student's ability to retell a story using appropriate grammar. Then, the researchers used the receptive language assessment to examine the student's ability to identify vocabulary

by having the student point to the corresponding pictures. These expressive and receptive language scores were compared between both groups (Hutchinson & Clegg, 2011). The data from both the expressive and receptive assessments were analyzed using an ANOVA (Hutchinson & Clegg, 2011). The difference between the baseline data from the pretests and the final data from the posttests from the experimental group indicated that intervention in the area of receptive language did not show a significant difference, but intervention in the area of expressive language could be a valuable resource for students that come to school with delayed speech language skills.

Dockrell et al. (2006) conducted a quantitative investigation to determine the best way to provide services to students with students with disabilities from one school compared on a local and national level. Their study was conducted in England and Wales and the primary focus was to execute legislative change in the service delivery model for students with disabilities who received speech language services (Dockrell et al., 2006). The researchers used previous research that supported the need to further investigate the effects of services for all students with varying types of disabilities (Dockrell et al., 2006). The researchers developed a survey and questionnaire, the survey was given to 129 participants and the researchers used the questionnaire to interview 39 SLP (Dockrell, et al., 2006). The results of their study differentiated from other studies based on the age and grade of the students (Dockrell et al., 2006). The researchers found that students with more severe cases of disabilities benefited from one on one direct service and these students attended “special setting” and found the indirect consultative model was best for students with less severe disabilities.

Shaughnessy and Sanger (2005) conducted a quantitative study that listed eight types of teacher interaction with SLP in a Likert style survey sent to 1036 kindergarten teachers at various schools throughout a midwestern state. A total of 484 participants responded and 367 of the 484 (75.83%) participants stated that the SLP used a pullout method to provide speech language services to students with disabilities, while 91 of the 484 (18.30%) participants indicated the SLP used an inclusion style service delivery model (Shaughnessy & Sanger, 2005, p. 70). The purpose of the study done by Baxter et al. (2009) was to find out the school staffs perception of working with SLP within the mainstream schools setting (Baxter et al., 2009). A survey was used to collect data from the participants and 25 of the 28 schools responded (Baxter et al., 2009). The researchers found that 38% or less of the staff had no idea of the duties the SLP was responsible for (Baxter et al., 2009). The researchers recommended further investigation because it is important for the staff to know the importance of SLP and how students with disabilities can benefit from the SLP' services.

Literature Relating to Differing Methodologies

In this subsection, researchers (Hartas, 2004; Kerrin, 1996; & Ritzman, et al., 2006) have done qualitative studies on various models of collaboration. They have provided relevant research that supported collaboration between SLP and teachers.

Ritzman et al (2006) used a qualitative case study design and investigated one middle school based SLP applying a classroom based service delivery model. The SLP approach to assessment and treatment centered on inclusive collaborative instruction (Ritzman et al., 2006). They chose one SLP for this study and chose their population

through purposeful sampling to investigate collaborative service delivery in the school setting (Ritzman, et al., 2006). The data was collected via three in depth interviews, and seven observations over a four month period of time (Ritzman et al., 2006). The SLP used several types of service delivery models, specifically coteaching instruction and a traditional pullout model (Ritzman, et al., 2006). The SLP pulled some students from their educational setting into a smaller setting to provide direct services that only applied to skills outlined in the students individualized education plan (Ritzman et al., 2006). The pullout services would only take place when the student's speech language skills could not be addressed appropriately within the classroom setting (Ritzman, et al., 2006). The SLP used a combination of consultative, collaborative, and classroom based instruction for a majority of students, thus, allowing for more flexibility when providing services that were appropriate for the changing needs of the individual students.

The service delivery models were determined based on the student's needs (Ritzman et al., 2006). The SLP used coteaching instruction within the classroom setting (Ritzman, et al., 2006). The SLP modified the curriculum-based materials into activities that were similarly done in a traditional pullout setting and presented these lessons to the entire class in a way that included all students (Ritzman et al., 2006). The SLP was able to use this modified curriculum to address all of the students' various ability levels (Ritzman et al., 2006). Ritzman et al. (2006) were able to determine through this study that the SLP use of CBI was an effective way to deliver services to all students in the classroom setting. However, Ritzman et al. were unable to confirm that the coteaching model of instruction was any more effective than a traditional model of instruction.

Hartas (2004) investigated the consultative model of speech language therapy service delivery with a focus on collaboration through the use of consultation. The form of collaboration in this study did not require the SLP to have direct contact with the students, but it required the SLP to provide information to other professionals about the most effective means to work with students with students with disabilities (Hartas, 2004). In this mixed methods study, data was collected from the participants who answered questions on a Likert scale that was used to analyze both qualitative and quantitative data (Hartas, 2004). The researcher developed a coding scheme and an interrater reliability check was conducted to check the reliability of that coding scheme (Hartas, 2004). The researcher used the qualitative data to develop themes that helped to develop the literature of the participants' interactions (Hartas, 2004). The researcher used the quantitative data to record individual responses to the questions (Hartas, 2004). Hartas found that consultation had become popular amongst special educators because it allowed for more flexibility and it provided more resources. However, Hartas noted that some disadvantages to consultation were; not having enough knowledge of each other's expertise and that some professionals did not feel comfortable sharing their space. Kerrin (1996) conducted a qualitative investigation to examine SLP and teachers collaborating. The researcher reviewed various service delivery models, such as, the pullout model, collaboration through team teaching, the SLP and teacher sharing the instructional time, and having the SLP monitor students with students with disabilities while the teacher was instructing (Kerrin, 1996). The researcher also provided a list of suggested changes that are meant to help the SLP and teacher overcome some of their fears and anxieties when

attempting to collaborate with each other (Kerrin, 1996). Kerrin concluded her article by stating that with persistence, collaboration can benefit all involved through establishing working relationships that benefit all students, despite the fact that collaboration can be difficult and takes time to establish.

Summary

Researcher has shown that collaboration using coteaching instruction provides students with and without disabilities with the necessary accommodations to be successful in the classroom (Kool & Zigmond, 2008; Nichols et al., 2010). The current study focused on the effect of coteaching instruction on early literacy skills. The students' curriculum was not modified in any way. The SLP addressed phonological awareness, which is a specific early literacy skill that is important for reading development (Foster & Miller, 2007; Nathan, Stackhouse, Goulandris, & Snowling, 2004; Shaughnessy & Sanger, 2005; Spencer, Scheule, Guillot, & Lee 2008; & Ukrainetz et al., 2009). As indicated throughout the literature there is a need for continued collaboration in the educational setting by all professionals involved in student achievement. Nevertheless, the SLP and first grade teachers' use of coteaching instruction continues to rank as one of the least used forms of service delivery for students with disabilities (Shaughnessy & Sanger, 2005). Although there is limited literature on collaboration between the SLP and classroom teachers' use of coteaching instruction, there is mounting literature on the effectiveness of coteaching instruction for students with and without disabilities (Nichols et al., 2010; Wilson et al., 2010). There is a need to conduct further research on SLP and

classroom teachers' use of coteaching instruction (Ritzman et al., 2006; Shaughnessy & Sanger, 2005). This study was conducted to address such a need.

Section 3: Research Method

The purpose of this section was to describe the quasi-experimental design and methodology of the study. The major areas included in this section are research design and approach, setting and sample, description of treatment, instrumentation and materials, data collection and analysis, and a summary of the measures of protection for participants. The school in this study adopted coteaching instruction between the SLP and first grade teachers. This study was used to measure the effect of the SLP and first grade teachers' use of coteaching instruction on early literacy skills of first grade students.

Research and Design Approach

Creswell (2009) stated that experimental research requires the researcher to provide treatment to one group of participants (e.g., experimental group) while not providing treatment to the other group of participants (e.g., control group) and using the data from each group to measure the outcome of the scores to determine the treatment effect. Because the study school administration pre-assigned all of the students to specific classes at the beginning of the school year, I used nonrandom purposeful sampling to determine whether to place the participants into the experimental or control group. A quasi-experimental design was chosen to measure the effects of the treatment in this study because true experimental research designs do not allow the researcher to use nonrandom sampling. The SLP and first grade teachers used the SIM program as treatment. In this study, I referred to the first grade teachers as *research partners*.

The researcher partners administered the TELNWFS from the AIMSweb assessment tool to collect pretest data. All of the students in the first grade were assessed using the AIMSweb assessment tool at the beginning of the school year. There were 166 first grade students in this study. The independent variable was coteaching instruction. I obtained the covariate from the pretest TELNWFS which provided literacy levels of participants before administering the treatment. The covariate was the scores from the initial TELNWFS and the dependent variable was the data obtained from the final TELNWFS. I used an ANCOVA to analyze the data and examine the difference between the mean scores of the experimental and control groups (Gravetter & Wallnau, 2008). The ANCOVA was used to statistically control the effects of pre-existing individual literacy skills by allowing the focus of the study to address only one control variable. The AIMSweb TELNWFS pretest served as the control variable in this study.

Setting and Sample

Population

This study took place in a single elementary school located in the southeastern area of the United States. This study focused on the effect of the SLP first grade teachers' use of coteaching instruction on early literacy skills of first grade students who attended this elementary school. The participants were divided into experimental and control groups. These groups consisted of 166 first grade students. There were 97 students in the control group and 69 students in the experimental group. first grade students were chosen for this study because they are one of the grade levels considered in various research studies that have examined early literacy development (Zourou, Ecalle,

Magnan, & Sanchez, 2010). Of the 200 students in the first grade, 101 were male and 99 were female. The population included 5 Asian students, 35 African American students, 18 Hispanic or Latino students, 3 American Indian or Alaska Native students, 105 Caucasian students, 0 students with two or more races, 0 Native Hawaiian or other Pacific Islander, and 0 unclassified. All of the research partners in this study were Caucasian. All of the teachers held current valid teaching certification in the state where this study took place. The teachers in this study were qualified based on criteria that had been outlined by the State Department of Education. Researchers have used differing definitions of the term *qualified*; as an example, Robinson (2011) defined qualified teachers as teachers who have passed a state mandated exam, obtained an advance degree, or have taken and passed courses specifically related to their educational certificate. Robinson also noted that each state sets the criteria for determining whether a teacher is qualified.

Sample Method and Size

There were 166 student participants in this quasi-experimental study. All of the students were enrolled in a first grade classroom. I chose the students through the use of nonrandom purposeful sampling. There were 42 students who had been diagnosed with a speech language or learning disability and 124 students without a disability participating in the study. According to Cohen, Manion, and Morrison (2000), to detect a large difference between two independent samples at $\alpha = .05$, the size of the sample must contain at least 26 participants in each group. Delice (2010) also found that sample sizes between 30 and 500 were commonly used for various types of research at a 5%

confidence interval. Meagher (2012) stated that larger sample sizes yield more exact results. The building administrators strategically placed students based on factors such as the previous year's AIMSweb scores, disability, and retention. There were a total of 10 classes and each class contained students with disabilities. Research Question 1 focused on students with disabilities and Research Question 2 focused on students without disabilities , so I divided the classes based on the number of students with disabilities enrolled in each class to ensure the students with disabilities groups would be as evenly distributed amongst the experimental and control groups in order to address Research Question 1. There were a total of 42 students with disabilities enrolled throughout 10 first grade classes. I used the master schedule to determine the specific number of students with disabilities in each class. I then divided all of the classes into two equal groups of 5. The control group contained 22 students with disabilities and 75 students without disabilities and the experimental group contained 20 students with disabilities and 49 students without disabilities. I am aware that previously published researchers examined the effect that gender and socioeconomic status had on literacy development, such as Janus and Duka (2007). Unfortunately, factors such as socioeconomic status, gender, and ethnicity were not considered in this research study due to time constraints.

Sample Eligibility

I determined student eligibility for the study based on the students' enrollment status and grade level: All students enrolled in the first grade at this elementary school were eligible to be included in this study.

Treatment

The treatment for this study involved the SLP and first grade teachers' use of coteaching instruction as a variation of traditional instruction. The SLP and first grade teachers focused the instruction on phonemic awareness and used activities from the SIM program to guide the instruction. The SIM program includes a combination of body movements, requiring the use of hands, arms, and sometimes the entire body when differentiating the sound production of consonants and vowels that most students often mispronounce or confuse when applying them to spelling and reading (Santore, 2006). The SLP and first grade teachers provided coteaching instruction to only the experimental groups by using the SIM program. The SLP and classroom teachers' alternated roles within the classroom using the one teach one assist approach (Friend et al., 2010). The first grade teachers whose classes were considered control groups provided traditional instruction to the students in their class with no variation to the instructional model. The control group did not receive instruction from the SLP or the first grade classroom teacher using the SIM program. The SIM program was controlled by the SLP and no other classroom teachers used the program other than the classes that had been identified as the experimental group.

The SLP and first grade teachers taught the SIM instruction to the experimental group once a week for 15 weeks. The 15 weeks allowed the SLP and first grade teachers to make up sessions in the event of a scheduled holiday break for students and staff and for scheduled workday or inclement weather interferences. The SLP and first grade teachers used the SIM instruction as a supplement to the regular phonemic awareness

instruction that the first grade teachers provided to the experimental groups when the SLP was not in the classroom. The SLP and first grade teachers provided the SIM instruction during center time when there was no scheduled direct instruction taking place. Center time is a time allotted in the day for students to do independent skill practice at specific stations throughout the classroom. The SLP and first grade teachers' use of the SIM instruction did not affect the first grade teachers regular instruction that the students in the experimental group received on a daily basis.

Instrumentation and Materials

The AIMSweb assessment tool is a norm referenced assessment that measures reading, writing, and math (as cited in Pearson, 2009). The technical manual located on the AIMSweb website, contains information about retest reliability, alternate-form reliability, interscorer, and validity of the Test of Early Literacy and all of its subtests (as cited in Pearson, 2009). The information contained in the technical manual state that the AIMSweb TELNWFS are reliable and valid. The AIMSweb TELNWFS was used to collect data from all of the first grade students. Every student in first grade was required to take the Test of Early Literacy at the beginning of the year to help teachers determine their students' initial early literacy ability and to guide instruction that was appropriate for all of their students' abilities. The Test of Early Literacy was also taken two additional times during the school year to determine growth of each student's literacy skills over time. The Test of Early Literacy is broken down into four subtests: letter naming fluency, letter sound fluency, phoneme segmentation fluency, and nonsense word fluency. The TELNWFS was the target subtest because it measures the student's

phonemic awareness skills. The subtest was open-ended, requiring the students to read their answers to the test administrator. There are 35 variations of this subtest and a different TELNWFS was administered to the student each time with different items. The TELNWFS has a total of 75 items and each item is worth three points each for a total of 220 points.

Validity and Reliability

AIMSweb is a curriculum-based measure that is used for progress monitoring. The technical review committee of the National Center on Response to Intervention has deemed this assessment reliable and valid to measure progress of early literacy skills over time (as cited in Pearson, 2009). The AIMSweb technical manual reported retest reliability, alternate-form reliability, and interscorer agreement (as cited in Pearson, 2009). It was also reported in the AIMSweb technical manual that user data from 2007-2008 and 2009-2010 was used to check validity along with comparison data from other standardized assessments, such as, the Woodcock-Johnson Revised, Broad Reading, the Woodcock-Johnson Revised, Reading skills, the Test of Phonological Awareness (as cited in Pearson, 2009).

Process

The test administrator who had been trained and authorized by the school district administered the TELNWFS individually to each student. Each of the subtests in the Test of Early Literacy was administered for one minute for a total time of four minutes. Each of the subtests are standardized and the directions must be read as specified throughout the manual. During the TELNWFS, the test administrator placed a practice

item in front of the student and explained the task. The test administrator explained to the student that the words are nonsense or not real words. The student responded by sounding out each word's individual letter sound or reading the entire word. The test administrator awarded one point for each letter pronounced correctly. The test administrator gave the students a copy of the words and prompted them to begin reading once the directions had been explained and the example had been given. If the student was not able to read or did not respond, the assessment was discontinued and the student received a score of zero. The subtest was scored immediately to save time and to decrease the potential for error, which is referred to as browser based scoring (as cited in Pearson, 2009). The data was stored in the AIMSweb database and the test administrator that worked with the student who had been assessed could access the students' data.

Data Collection

Data Collection Procedures

There were a total of 11 classes; one of the classes had to be excluded because the testing administrators were unable to administer the final assessment to the students' in that class at the same time that the other 10 classes were assessed due to a strict time line set by the school district. The class that was excluded was not a part of the treatment group. The TELNWFS pretest was administered to 200 first grade students in the fall of the 2013-2014 school year and 166 students were given the final TELNWFS in the spring of the same school year. The total sample size included 42 students who had been diagnosed with a speech language or learning disability and 124 students without a disability. Several students had to be excluded from the study for various reasons.

There were nine students excluded because they either did not have a pretest TELNWFS score or a final TELNWFS score and 25 students were excluded because the final TELNWFS was not administered to their class. I collected the assessment scores of the initial and final TELNWFS. This subtest is a part of the AIMSweb standardized assessment tool that all students in the first grade were required to take during the school year. I accessed the students' data by meeting with the first grade teachers at which time they provided me with hard copies of all student data. The research partners de-identified all student information and I stored the data in a locked cabinet in my classroom at the school that can only be accessed by me.

Data Analysis

I used an ANCOVA to analyze the data collected from the TELNWFS. The SLP and first grade teachers' use of coteaching instruction versus traditional instruction served as the treatment. I downloaded and used the current version of the Statistical Package for the Social Sciences 21.0 (SPSS) software from Walden's research resources and tools to analyze the data using a causal comparative design. The covariate was the scores of the initial TELNWFS and the dependent variable was the scores of the final TELNWFS. The analysis allowed me to examine the differences between the experimental and control groups. The independent variable, coteaching instruction, was nominal, and the covariate and dependent variable were used to measure the differences between the groups on an interval scale. With this data, I examined the effects of the SLP and first grade teachers' use of coteaching instruction on early literacy skills of students with disabilities and students without disabilities. The research questions were as follows:

Research Question 1: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction, and first grade students with disabilities in the control group who did not receive coteaching instruction?

Null Hypothesis 1: There was no significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction, and first grade students with disabilities in the control group who did not receive coteaching instruction.

Alternative Hypothesis 1: There was a significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction, and first grade students with disabilities in the control group who did not receive coteaching instruction.

Research Question 2: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction, and first grade students without disabilities in the control group who did not receive coteaching instruction?

Null Hypothesis 2: There was no significant performance differences between the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction, and first grade students without disabilities in the control group who did not receive coteaching instruction.

Alternative Hypothesis 2: There were significant performance differences between the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction, and first grade students without disabilities in the control group who did not receive coteaching instruction.

I analyzed for Research Question 1 using the students with disabilities scores from the final TELNWFS. These scores were entered into SPSS. This group's independent variable was coteaching instruction, the dependent variable was the scores from the final TELNWFS, and the covariate was the scores from the initial TELNWFS. I analyzed for Research Question 2 by using the students without disabilities' scores from the final TELNWFS. I also entered these scores into SPSS. This group's independent variable was coteaching instruction, the dependent variable was the scores from the final TELNWFS, and the covariate was the scores from the initial TELNWFS.

Summary of Protection for Participants

This study took place in a small school in the southeastern area of the United States. None of the participants were identified. I met with the building principal to get signed permission for the use of the data from the TELNWFS for all first grade students. I did not access any student data until Walden Universities Institutional Review Board (IRB) approved the proposal for this study. I received approval from the Walden University Review Board on February 4, 2014. The approval number for this research study was 02-04-14-0085706. Once I received IRB approval, any data that was collected was de-identified and stored in a locked cabinet in my classroom. I am the only person that can access this cabinet, which is located within my classroom at the school. The

building principal had previously authorized teachers to implement coteaching instruction within the classroom setting. It is standard practice in this school setting for educational professionals to provide instructional intervention without parent approval; the building principal has complete authority to make such decisions. This study did not require parental consent because the administration of the AIMSweb assessment tool is required by the school district in order for the teachers to track the student's progress in early literature development over time. The teachers also used the data from the AIMSweb assessment to help develop a curriculum that addressed all students' needs. I did not propose that any of the scheduling for the administration of the AIMSweb assessment be changed or modified in any way. The building principal previously approved the use of the SIM program and has written a letter of cooperation (see Appendix B) to the IRB of Walden University. The letter stated that the program had been approved and that the SIM instruction was supervised within the standard delivery of services that took place on a daily basis within the school setting. The building principal was asked to sign a data use agreement (see Appendix A) in order for the student data from the TELNWFS to be used. The data from this study was used to examine student achievement in the area of early literacy development.

Role of the Researcher

The role of the researcher was direct involvement with instruction and data collection. There were specific staff members who had been trained to administer the AIMSweb assessment tool including all classroom teachers. I consulted with the research partners to collect all of the student data once the assessments had been

administered and scored. I had direct involvement with the students who have been diagnosed with disabilities. I am the SLP at in the treatment school where the study took place, and I am mandated by law to provide speech and language services to students with diagnosed disabilities (Giangreco, Prelock, & Turnbull, 2010). I followed the guidelines of the students individualized education plan and did not deviate from my professional responsibilities within the therapy environment. I did not provide any of the instructional treatment SIM for students during their individual therapy sessions. I only provided coteaching instruction within the experimental group's classroom setting with the first grade teacher present.

Summary

Section 3 provided information about the methodology selected to examine the effects of the SLP and first grade teachers' use of coteaching instruction. Section 3 explained the research design and approach, setting and sample, description of treatment, validity and reliability of instrumentation and the AIMSweb materials, data collection and analysis, and a summary of the measures of protection for participants. Section 4 presents a discussion of the findings.

Section 4: Results

In this study, I examined the effects of coteaching instruction between the SLP and first grade teachers on students' early literacy skills. The purpose of Section 4 is to present the data and the findings. Section 4 focuses on the data analysis, research questions, and research findings.

Data Analysis

The research questions were addressed by entering the students' TELNWFS scores into SPSS 21.0. An ANCOVA statistical test was used to analyze the data and to determine if the treatment had a significant difference on student performance. The tables contained in this section were generated by the SPSS program and aided in determining the effect of coteaching instruction on first grade students with disabilities performance on the TELNWFS. A test of homogeneity of regression revealed F (1, 38) = *1.766*, p = .192 > a .05. The information from the test of homogeneity indicated that the interaction between the covariate and the independent variable was not significant; therefore, I was able to conduct my ANCOVA. Table 1 contains descriptive statistics of the first grade students with disabilities TELNWFS final scores. The sample total for the students with disabilities control and experimental group was 42. The control group's mean (M) was 49.45 and the standard deviation (SD) was 20.669. The experimental group M was 48.80 and the SD was 11.200. The overall total for the entire students with disabilities group M was 49.14 and SD was 16.645.

Table 1

Students With Disabilities Descriptive Statistics of Dependent Variable

Students With Disabilities	*M*	*SD*	*N*
Control	49.45	20.669	22
Experimental	48.80	11.200	20
Control and experimental	49.14	16.645	42

Findings for Research Question 1

The students with disabilities control and experimental groups' TELNWFS final scores were analyzed using an ANCOVA to determine whether there was a significant difference between the scores of students within the group who received treatment versus students within the group who did not receive treatment. The fall TELNWFS pretest scores that served as the covariate were included in the analysis to control the effects of pre-existing individual literacy skills by allowing the study to address only the final TELNWFS scores. Table 2 contains information that was used to determine whether the null hypothesis could be rejected. The findings in Table 2 revealed that F was .308 and $p = .582$, which was larger than .05, indicating that there was no significant difference between the students with disabilities control and experimental groups' TELNWFS final scores. The data analysis failed to reject the null hypothesis, which stated that there would be no significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who received

coteaching instruction and first grade students with disabilities in the control group who did not receive coteaching instruction.

Table 2

ANCOVA on Final Scores of Students With Disabilities: A Test of Between-Subjects Effects

Source	Type III *SS*	*df*	*MS*	*F*	Sig.
Corrected Model	4571.316[a]	2	2285.658	13.132	.000
Intercept	9723.866	1	9723.866	55.869	.000
FallScores	4566.827	1	4566.827	26.239	.000
Group	53.614	1	53.614	.308	.582
Error	6787.827	39	174.047		
Total	112790.000	42			
Corrected Total	11359.143	41			

Note. R Squared = .402 (Adjusted R Squared = .372)

Findings for Research Question 2

Research Question 2 addressed whether there were any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction. Data were coded and entered into the SPSS statistical software. The data for the independent variable were coded using the variables experimental group and control group. The students in the control group were coded as

1, and the students in the experimental group were coded as 2. The scores earned by the first grade students during the spring administration of the TELNWFS served as the dependent variable and were entered into SPSS as a numeric value. The TELNWFS pretest scores served as the covariate and were also entered into SPSS as a numeric value. The AIMSweb data were collected from the school district's AIMSweb database. The data sheets contained the fall and spring TELNWFS scores of all first grade students who had taken the assessment throughout the school year. If the section under fall or spring was empty or contained no score, this student was excluded from the sample.

Data contained in Tables 3 and 4 were generated by the SPSS program and aided in determining the effect of coteaching instruction on first grade students without disabilities performance on the final TELNWFS scores. A test of homogeneity of regression revealed F (1, 120) = 3.*323*, p = .071 > a .05. The information from the test of homogeneity indicated that the interaction between the covariate and the independent variable was not significant; therefore, I was able to conduct my ANCOVA. Table 3 contains descriptive statistics of the first grade final students without disabilities TELNWFS scores. The sample total for the students without disabilities control and experimental group was 124. The control group's mean *(M)* was 73.91 and the standard deviation *(SD)* was 28.134. The experimental group *M* was 88.94 and the *SD* was 39.263. The overall total for the entire students with disabilities group *M* was 79.85 and *SD* was 33.649

Table 3

Students Without Disabilities Descriptive Statistics of Dependent Variable

Students Without Disabilities	*M*	*SD*	*N*
Control	73.91	28.134	75
Experimental	88.94	39.263	49
Control and experimental	79.85	33.649	124

The students without disabilities control and experimental groups final TELNWFS scores were also analyzed using an ANCOVA to determine whether there was a significant difference between the scores of student within the group who received treatment versus students within the group who did not receive treatment. The descriptive statistics in Table 3 have been statistically controlled by the covariate. The fall TELNWFS pretest scores that served as the covariate were included in the analysis to control the effects of pre-existing individual literacy skills by allowing the study to address only the final TELNWFS scores. Table 4 contains information that was used to determine whether the null hypothesis could be rejected. The findings in Table 4 revealed that F was 1.829 and $p = .179$, which was larger than .05, indicating that there was no significant difference between the students without disabilities control and experimental groups TELNWFS final scores. The analysis failed to reject the null hypothesis, which stated that there would be no significant performance differences between the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction.

Table 4

ANCOVA on Final Scores of Students Without Disabilities: A Test of Between-Subjects Effects

Source	Type III *SS*	*df*	*MS*	*F*	Sig.
Corrected Model	70626.855[a]	2	35313.428	62.252	.000
Intercept	23626.048	1	23626.048	41.649	.000
FallScores	63929.930	1	63929.930	112.698	.000
Group	1037.298	1	1037.298	1.829	.179
Error	68639.233	121	567.266		
Total	929829.000	124			
Corrected Total	139266.089	123			

Note. R Squared = .507 (Adjusted R Squared = .499)

Summary

This quantitative quasi-experimental study was designed to examine the effects of coteaching instruction between the SLP and first grade teachers on students' early literacy skills. The students with disabilities final TELNWFS scores were compared between students within the group who received treatment and students within the group that did not receive treatment. The results from the ANCOVA revealed that there was no significant effect of coteaching instruction on the final TELNWFS of students with disabilities in the control and experimental groups. Additionally, the students without disabilities final TELNWFS scores were also compared between students within the

group who received treatment and students within the group that did not receive treatment. The results from this ANCOVA also revealed that there was no significant effect of coteaching instruction on the final TELNWFS of students without disabilities in the control and experimental groups. Section 5 further discusses the findings, implications, and recommendations.

Section 5: Discussion, Conclusions, and Recommendations

The effects of coteaching instruction between the SLP and first grade teachers on students' first grade literacy skills were examined in this study. The purpose of this section is to provide a brief overview, interpret the findings, discuss implications for social change, make recommendations for action, make recommendations for further study, and state a conclusion.

Overview

Professionals that work in the field of Speech Pathology have had concerns about how to address the needs of students with and without disabilities based on standards set by the IDEA (Dockrell et al., 2006; Foster & Miller, 2007; IDEA, as amended in 2004). These Speech Pathology professionals have been specifically trained to treat language, phonology, fluency, voice, and other areas of speech language development (ASHA, 2010). These trained professional speech pathologists provide services that impact early intervention in the area of early literacy development (Paul & Roth, 2011). The IDEA (2004) stated that students with disabilities should remain the LRE or in the general education environment as much as possible (Hartas, 2004; Nichols et al., 2010). Professionals in the area of education have made been able to keep students with disabilities in their LRE by collaborating using coteaching instruction, which is one of the necessary accommodations to be successful in the classroom setting (Kool & Zigmond, 2008; Nichols et al., 2010). Researchers have described coteaching instruction as that which occurs when the regular education teacher and special education teacher, SLP, or

other education specialist work together within the classroom setting (Friend et al., 2010; Nichols et al., 2010).

Research Questions

The two research questions examined in this study were as follows:

Research Question 1: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching instruction and first grade students with disabilities in the control group who did not receive coteaching instruction?

Research Question 2: Were there any statistically significant differences between early literacy skills measured by the final TELNWFS scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction?

Summary of Findings

The data from this study revealed that that there was no significant difference between the students with disabilities control and experimental groups' Nonsense Word Fluency Subtest final scores. The ANCOVA test discussed in Section 4 presented the following: value of F was .308 and p = .582, which was larger than .05. The data analysis failed to reject the null hypothesis for Research Question 1, which stated that there would be no significant difference between the final TELNWFS scores of first grade students with disabilities in the experimental group who received coteaching

instruction and first grade students with disabilities in the control group who did not receive coteaching instruction.

The data also revealed that that there was no significant difference between the students without disabilities control and experimental groups' TELNWFS scores. The ANCOVA test presented the following: value of F was 1.829 and $p = .179$, which was larger than .05. The data analysis failed to reject the null hypothesis, which stated that there would be no significant performance differences between the final Test of Early Literacy NWSF subtest scores of first grade students without disabilities in the experimental group who received coteaching instruction and first grade students without disabilities in the control group who did not receive coteaching instruction.

Interpretation of Findings

The findings from this study revealed no significant treatment effect of the SLP and first grade teachers' use of coteaching instruction on the AIMSweb TELNWFS scores of first grade students with and without disabilities. According to Houston and Perigoe (2010), McConnellogue (2011), and Kloo and Zigmond (2008), coteaching instruction was expected to improve student performance. In this study, coteaching instruction was implemented based on the theoretical framework of the ESTM (Bronfenbrenner, 1994). Ritzman et al. (2006) stated that the SLP and classroom teachers possess the skills necessary to assist students with disabilities through collaborative instruction, which can be used to accommodate students with disabilities needs. Ritzman et al. examined coteaching instruction through coteaching and collaborative teaming along with instruction and found coteaching instruction to be beneficial for students with

and without disabilities. However, Ritzman et al. did not use SIM as the treatment, which may have been the difference between the outcomes of their study and the outcomes of the current study.

There were several factors that may have affected the results of the current study:

- Changes to the testing schedule due to inclement weather: The students missed a total of 6 days over a 2-week period. The students had to take all assessments mandated by the district within close proximity to one another. This included the AIMSweb TELNWFS. This schedule may have caused some of the students to have anxiety or stress when taking their assessments and could have skewed the test scores.
- Due to inclement weather and changes with the school and testing schedule, all testing dates were changed to accommodate the missed days of school. The students received several district-mandated assessments within a short period of time, and the AIMSweb TELNWFS was one of the many assessments that the students had to complete.
- All students were not present at school for all of the SIM instructional days. There were several inclement weather days during the winter months, and this required school closings.
- Some of the students did not respond well to the SIM instruction; they would sit with their heads down or choose not to participate at times.
- The classroom teacher and the SLP were not always available to complete the sessions due to unexpected scheduling conflicts.

All of these factors may have had some effect on the data collected, which might have influenced the findings of the study.

The SLP and first grade teachers used the SIM program as supplemental instruction. The SIM program has been used by SLP as an instructional instrument that has helped identify students with and without disabilities who experience specific difficulties with phonemic awareness (Santore, 2006). Ultimately, first grade literacy skills can be an indicator of reading skills in later grades and reading difficulty has been connected to other speech language and learning disabilities; early intervention of these delayed developing literacy skills could lessen the need for special education services in later grades (Foster & Miller, 2007).

There are not very many studies that addressed the SLP and teachers using coteaching instruction, but there was one very similar study that found very different results. Hutchinson and Clegg (2011) stated that there was not enough information available in the literature about the effectiveness of speech language intervention done by the SLP within the educational setting and decided to test the effectiveness of language intervention using the LTP. In their quantitative study, the experimental group consisted of 12 participants from a primary school and the control group consisted of 12 participants from a different primary school. The experimental group received interventions cotaught by the classroom teacher and teacher assistant, and the control group did not receive any intervention. A repeated measures analysis was completed using the groups' pre- and posttest scores from the LTP's expressive and receptive standardized language assessment. The data from both assessments were analyzed using

an ANOVA (Hutchinson & Clegg, 2011). The difference between the baseline data from the pretests and the final data from the posttests from the experimental group indicated that intervention in the area of receptive language did not show a significant difference, but intervention in the area of expressive language could be a valuable resource for students who come to school with delayed speech language skills. The study revealed differing results about the effectiveness of coteaching instruction. Hutchinson and Clegg's study focused on language intervention for students with disabilities only; their study was different from the current study because they used a different form of treatment. Their study was similar to the current study because the researchers used coteaching instruction and pre- and posttest data to determine the effect of the treatment. I expected similar results for the current study even though there were differing forms of treatment in each study. However, the results of the current study did not reveal similar results.

The practical applications of this quasi-experimental research study's results will allow other schools within the school district to explore options of inclusive learning that differ from the current study. The findings of this study revealed that the method of coteaching instruction used by the SLP and first grade teachers in the treatment school was not effective.

Implications for Social Change

Although this study did not reveal a significant difference with the SLP and first grade teachers' use of coteaching instruction as an effective approach to improving early literacy skills. There is clearly a need for the administration to modify or reevaluate the

use of coteaching instruction between the SLP and first grade teachers. There also continues to be a need for more interaction between professionals within the treatment school because each one has something to offer the other and they are all there for the purpose of advancing the education of all children. I have the privilege of working within the treatment school and I am able to disseminate the findings and implications of this study to my fellow colleagues. I will meet with the building principal of the treatment school to review findings and implications. I will then ask for permission to share the results with the staff at a faculty meeting.

Disseminating the findings and implications of this study will provide an avenue for administrators at the treatment school and other schools within the school district to use school based research as a way to determine if specific methods of instruction will be effective. A positive social change could be that school administrators have a better understanding of the use of coteaching instruction between the SLP and first grade teachers.

Recommendations for Action

The results of this study revealed that the effects of coteaching instruction used by the SLP and first grade teachers on students' early literacy skills had no effect on the AIMSweb TELNWFS scores of first grade students that attend the study school located in the southeastern part of the United States.

The results of this study will be shared once I have received final approval of my doctoral study from Walden University. It will then be disseminated to the faculty of the

school where the study took place once the building principal has been briefed individually and approves the dissemination of the results at a specified faculty meeting. The information from this study will be disseminated via a formal oral presentation to faculty at the school where the study took place and for any district officials that inquire. The results will be presented in a power point format. None of the participants will be identified and all results will be shown in a chart or graph format

Recommendations for Further Study

Based on the findings of this study, the following recommendations are made for researchers:

1. The ESTM was used as the theoretical framework for this study. There are five systems in this theory, this study only focused on 3; the microsystem, mesosystem, and the chronosystems. If this current study is done focusing on all five systems, the outcome may be different. The five systems work together as a "bioecological paradigm"; Bronfenbrenner (1995) stated that when all systems of the ESTM are addressed, the model can be "scientifically productive" (p. 620 & 621).
2. It is also my recommendation that future studies use a mixed methods study examining why the treatment did not have a significant effect on the students AIMSweb TELNWFS scores. Creswell (2009) stated that the use of mixed methods research is becoming more prevalent within the field of social and human sciences. Since the use of qualitative and quantitative methods in research has been proven effective, combining the two forms using a mixed

method allows researchers to strengthen their study (Creswell, 2009). Due to the complexity of some social and health science research inquiries, the use of a qualitative or a quantitative method alone would not be sufficient enough to "address the complexity" of the researchers inquiries (Creswell, 2009, p. 203). Creswell (2009) further explained that the simultaneous use of both the qualitative and the quantitative methods gives the researcher a broader explanation of the research outcomes. I would conduct a mixed method study by adding a qualitative portion to the qualitative study, and I would have the teachers answer a questionnaire or conduct interviews to collect more information.

Conclusion

As the SLP in the treatment school, I often consult with teachers about interventions in the area of phonemic awareness that help students with and without disabilities develop early intervention skills. These are typically the students that are not successful with traditional instructional strategies. It was important that this study take place within the treatment school because there continues to be students with and without disabilities who struggle with phonemic awareness as it relates to early literacy development. The main purpose of this study was to add to the body of literature on coteaching instruction and early intervention. This study allowed me to examine the effectiveness of coteaching instruction as implemented by the SLP and first grade teachers. The results from this study have created a platform for continued school based research that can be used when making instructional decisions within the school setting.

The treatment school should continue to examine alternatives for SLP and teachers to work together within the school setting to provide early intervention thorough instruction because there is research that supports collaboration done by SLP and teachers (Lindsey & Dockrell, 2002; Pena & Quinn, 2003). In the end, the job of an educator is never complete. We must continue to conduct research and find instructional methods that are appropriate and effective for our students to ensure that each one is learning. We do not only teach our students, our students teach us daily.

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Appendix A: Data Use Agreement

DATA USE AGREEMENT

This Data Use Agreement ("Agreement"), effective as of 12/20/2013("Effective Date"), is entered into by and between Chrisonia W. Busch ("Data Recipient") and XXXXXXX ("Data Provider"). The purpose of this Agreement is to provide Data Recipient with access to a Limited Data Set ("LDS") for use in research in accord with the HIPAA and FERPA Regulations.

1 Definitions. Unless otherwise specified in this Agreement, all capitalized terms used in this Agreement not otherwise defined have the meaning established for purposes of the "HIPAA Regulations" codified at Title 45 parts 160 through 164 of the United States Code of Federal Regulations, as amended from time to time.

2 Preparation of the LDS. Data Provider shall prepare and furnish to Data Recipient a LDS in accord with any applicable HIPAA or FERPA Regulations

3 Data Fields in the LDS. No direct identifiers such as names may be included in the Limited Data Set (LDS). In preparing the LDS, Data Provider shall include the **data fields specified as follows**, which are the minimum necessary to accomplish the research (list all data to be provided): AIMSweb Test of Early Literacy

4 Responsibilities of Data Recipient. Data Recipient agrees to:

a Use or disclose the LDS only as permitted by this Agreement or as required by law;

b Use appropriate safeguards to prevent use or disclosure of the LDS other than as permitted by this Agreement or required by law;

c Report to Data Provider any use or disclosure of the LDS of which it becomes aware that is not permitted by this Agreement or required by law;

d Require any of its subcontractors or agents that receive or have access to the LDS to agree to the same restrictions and conditions on the use and/or disclosure of the LDS that apply to Data Recipient under this Agreement; and

e Not use the information in the LDS to identify or contact the individuals who are data subjects.

1 Permitted Uses and Disclosures of the LDS. Data Recipient may use and/or disclose the LDS for its Research activities only.

2 Term and Termination.

a Term. The term of this Agreement shall commence as of the Effective Date and shall continue for so long as Data Recipient retains the LDS, unless sooner terminated as set forth in this Agreement.

b Termination by Data Recipient. Data Recipient may terminate this agreement at any time by notifying the Data Provider and returning or destroying the LDS.

c Termination by Data Provider. Data Provider may terminate this agreement at any time by providing thirty (30) days prior written notice to Data Recipient.

d For Breach. Data Provider shall provide written notice to Data Recipient within ten (10) days of any determination that Data Recipient has breached a material term of this Agreement. Data Provider shall afford Data Recipient an opportunity to cure said alleged material breach upon mutually agreeable terms. Failure to agree on mutually agreeable terms for cure within thirty (30) days shall be grounds for the immediate termination of this Agreement by Data Provider.

e Effect of Termination. Sections 1, 4, 5, 6(e) and 7 of this Agreement shall survive any termination of this Agreement under subsections c or d.

1 Miscellaneous.

a Change in Law. The parties agree to negotiate in good faith to amend this Agreement to comport with changes in federal law that materially alter either or both parties' obligations under this Agreement. Provided however, that if the parties are unable to agree to mutually acceptable amendment(s) by the compliance date of the change in applicable law or regulations, either Party may terminate this Agreement as provided in section 6.

b Construction of Terms. The terms of this Agreement shall be construed to give effect to applicable federal interpretative guidance regarding the HIPAA Regulations.

c No Third Party Beneficiaries. Nothing in this Agreement shall confer upon any person other than the parties and their respective successors or assigns, any rights, remedies, obligations, or liabilities whatsoever.

d Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, but all of which

together shall constitute one and the same instrument.

e Headings. The headings and other captions in this Agreement are for convenience and reference only and shall not be used in interpreting, construing or enforcing any of the provisions of this Agreement.

IN WITNESS WHEREOF, each of the undersigned has caused this Agreement to be duly executed in its name and on its behalf.

DATA PROVIDER	**DATA RECIPIENT**
Signed: _____	Signed: _____
Print Name: _____	Print Name: _____
Print Title: _____	Print Title: _____

Appendix B: Letter of Cooperation

XXXXXXXXX
XXXXXXXX
XXXXXXXXX

January 21, 2014

Dear Chrisonia W. Busch,

Based on my review of your research proposal, I give permission for you to conduct the study entitled, Effects of Co-teaching Instruction between a Speech language pathologist and First Grade Teachers on Students Early Literacy Skills within XXXXXXX Elementary School. As part of this study, I authorize you to access student data from the AIMSweb Nonsense Word Fluency assessments. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: access to the teachers, classrooms where instruction will take place, students, a computer that can be used to analyze the data, and building supervisors that help maintain the integrity of the instruction that students will be receiving pre and post SIM instruction. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,

XXXXXXX- Principal

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the email, or (b) copied on the email containing the signed document. Legally an "electronic signature" can be the person's typed name, their email address, or any other identifying marker. Walden University staff verify any electronic signatures that do not originate from a password-protected source (i.e., an email address officially on file with Walden).

Curriculum Vitae

Chrisonia W. Busch

Education:

September 2008-September 2014: Walden University, Minneapolis, MN. Doctor of Education: Degree expected September 9, 2014

August 2001-December 11, 2004: South Carolina State University, Orangeburg, SC. Master of Arts: Speech Language Pathology and Audiology

August 1995- December 9, 2000: South Carolina State University, Orangeburg, SC. Bachelor of Arts: Speech Language Pathology and Audiology

June 1995-Richland North East High School, Columbia, SC. High School Diploma

Work Experience:

August 2005-Present, Speech Pathologist, Dorchester County School District Two, Summerville, SC

January 2001-June 2005, Special Education Teacher/Job Coach, Charleston County School District, Charleston, SC

Certificates and Degrees:

Professional License, South Carolina Licensure Board, March 2011

National Certificate of Clinical Competence, The American Speech, Language, and Hearing Association, June 2006

Master of Arts, 2004

Educational Certification in Speech Communication, The South Carolina Department of Education, January 2000

Bachelor of Arts, 2000