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Self-Efficacy Beliefs of Speech-Language Therapists Regarding their Skills in Collaboration to Work with Regular Education Classroom Teachers

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SELF-EFFICACY BELIEFS OF SPEECH-LANGUAGE THERAPISTS REGARDING THEIR SKILLS IN COLLABORATION TO WORK WITH REGULAR EDUCATION CLASSROOM TEACHERS

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Title: Self-Efficacy Beliefs of Speech-Language Therapists Regarding their Skills in Collaboration to Work with Regular Education Classroom Teachers

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Using a mixed-method case study to investigate the self-efficacy beliefs of speech-language therapists in Pennsylvania, this study examined their beliefs and variables perceived to influence speech-language therapists' self-efficacy with regard to their ability to collaborate with regular education classroom teachers. Data from surveys and information from semi-structured interviews were used to answer the following two research questions: (1). What are the self-efficacy beliefs of speech-language therapists with regard to their ability to collaborate with regular education classroom teachers? (2). What additional preparation, if any, do speech-language therapists believe they need to collaborate with regular education teachers?

Federal and state laws and practices mandating students be educated in least restrictive environments make it necessary to provide training to speech-language therapists on collaboration. The information gathered suggests that speech-language therapists working in schools in Pennsylvania report having strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers despite receiving minimal to no coursework and clinical experience in collaboration in bachelor's and master's level programs that prepare individuals to become speech-language therapists. The information gathered in this study also revealed many of the survey respondents and all of the interview participants felt they could benefit from additional

coursework in the area of collaboration and they could benefit from additional in-servicing in the area of collaboration. A high number of respondents and all of the participants in this study identified workshops/trainings/lectures along with time spent planning, discussing and communicating with colleagues as the most beneficial means to learn about and develop skills and knowledge of collaboration. A surprising finding was uncovered during this study. Speech-language therapists working in schools in Pennsylvania may lack an accurate understanding of what it means to work in collaboration with regular education teachers. The collective information gathered from the study suggests that additional coursework addressing collaboration along with modifications to other avenues of professional preparation such as in-service opportunities, workshops, lectures and/or time spent planning, discussing and communicating with colleagues are desired and are necessary to ensure stronger and appropriate preparation of speech-language therapists planning to and/or working in collaboration with regular education teachers in schools.

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CHAPTER I

INTRODUCTION

Language is the foundation upon which much of a student's educational progress rests. If educators are going to teach children to be academically successful, speech-language skills need to be taught in the classroom where learning is meaningful (Ferguson, 1992). For many students with disabilities, language and speech are connected to their disability. Therefore, the speech-language therapist in an educational setting is a critical element in ensuring a child's success in school.

From the early job labels of "speech teacher" or "speech correctionist" (O'Connell, 1997), a variety of job titles have described the professional who treats speech and language disorders in schools. Some of these job titles have included: speech teacher, speech-language specialist, communication specialist, speech therapist, and speech-language pathologist. For the purpose of this study, the title speech-language therapist refers to a person who provides a speech-language program addressing speech and language disorders in a school setting with students ages 3 - 21.

A speech-language therapist is someone who is educated to prevent, screen, assess, diagnose, identify, refer, intervene, and counsel individuals at risk for a variety of speech and language disorders. A speech-language therapist may be called upon to address communication disorders, speech disorders, and/or language disorders. These speech and language disorders include, but are not limited to articulation, phonology, fluency, voice, language, communication, and swallowing. In addition to engaging in activities to reduce or prevent speech and language disorders, speech-language therapists

also educate families and/or professionals about these disorders and their management (American Speech-Language-Hearing Association, 1996b).

According to Montgomery (1992), speech-language support services may be provided in three forms: direct, indirect or collaborative.

- A student can be served *directly* by a speech-language therapist, individually or in a group of students. This is typically done in a traditional pull-out model of service delivery.
- A student can be served *indirectly* by a speech-language therapist in a small group or with the whole class in the student's classroom through consultation with the classroom teacher.
- A student can be served *collaboratively* by a speech-language therapist and another trained person in a school setting.

The American Speech-Language-Hearing Association's (ASHA) 2006 nationwide survey on school services reported that speech-language therapists spend, on average: 21 hours per week in traditional pull-out service, 4 hours in classroom based and self-contained classrooms, 2 hours in collaborative activities, 2 hours in pre-referral activities or response to intervention activities, and approximately 1 hour in a resource room. Collaborating and transferring information between disciplines enables team members to share responsibility for delivering quality services. The trans-disciplinary team structure requires a high degree of collaboration whereby team members transfer general information, skills and performance competencies traditionally associated with one discipline to team members of other disciplines (Lyon & Lyon, 1980; Patterson, D'Wolff, Hutchison, Lowry, Schilling, & Siepp, 1976; Rainforth, York, & Macdonald, 1992). It is

important to note that speech-language therapists have reported a decrease in the amount of time spent in traditional or pull-out service delivery in the past six years. ASHA reported an average of 23 hours per week in 2000, in comparison with 21 hours per week in 2006 (ASHA, 2000, 2006).

Despite the view that traditional, pull-out models are viewed as more restrictive and less optimal than classroom-based approaches (Dekemel, 2003; Thorneburg, Calvert, Sturm, Paramboukas, & Paul, 2000), school-based speech-language therapists have reported that they continue to spend a majority of their time in traditional, pull-out services (ASHA, 2006). This practice persists although multiple researchers (Friend, 2008; Friend & Cook, 2007; Mastropieri, 2005; Prelock, Miller & Reed,1995; Sands, Kozleski, & French, 2000; Walther-Thomas, Korinek, McLaughlin, & Williams, 2000) have identified collaboration and co-teaching as best practices.

Collaboration in Education

The *Individuals with Disabilities Education Act* (IDEA, 1997) Amendments of 1997 or IDEA ’97 encouraged and promoted the integration of school speech-language services into the rest of the child’s educational program. This perspective continued with the reauthorization of IDEA in the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004). IDEA ’04 states that students with disabilities are to be educated, to the maximum extent appropriate, with peers without disabilities. Federal legislation requires that when deciding the most appropriate, yet least restrictive, environment for students with disabilities, the general education classroom with all necessary related services should be the initial consideration. For many speech-language therapists, this has meant providing therapy to studenst in their classrooms instead of

pulling them out to a therapy room (Wilcox, Kouri, & Caswell, 1991). While federal law does not require the placement of all students with disabilities in the regular education classroom, it presumes this setting is most appropriate unless evidence demonstrates that another setting is required to better meet the students' needs (Kerzner-Lipsky, 2003). The focus of the child's progress in the general curriculum has stimulated, and in some instances even necessitated, more collaboration among team members (Eger, 2000). From the point of initial identification, to planning, to implementation, and then through follow-up, a team comprised of educators and family members is expected to work together on behalf of the child (Council for Exceptional Children, 2000).

On January 8, 2002, the Elementary and Secondary Education Act (ESEA) was reauthorized by P.L. 107-110. This act, commonly known as the No Child Left Behind Act of 2001 (NCLB), forged stronger bonds between general and special education. NCLB, along with the reauthorization of IDEA '04, emphasized the commonalities between general and special educators (Moore-Brown & Montgomery, 2005).

Inclusion, one of the guiding principles steering the education of students with disabilities, creates an educational environment that meets the needs of all students (Kavale, 2005). Collaboration provides a tool with which professionals can team to meet the spirit of this guiding principle.

In attempting to understand the challenges of collaboration, Hudson and Glomb (1997) stated that effective collaboration requires that teachers have knowledge and skills in how to effectively communicate and share their technical expertise for the purpose of solving classroom problems and providing continuity across instructional settings. However, they further stated that few pre-service preparation programs provide both

special education and regular education majors with instruction in interpersonal communication skills and collaboration strategies. In order for regular and special educators to collaborate and work together to serve students with disabilities in regular education classrooms, teacher preparation programs must provide instruction in this area. A primary area of teacher training that would support students with disabilities in regular education classrooms is collaboration between regular and special educators (Friend & Bursuck, 1999). Training in collaboration may result in speech-language therapists having the confidence, skills and self-efficacy beliefs needed to work in collaboration with regular education teachers. It would appear that a strong sense of self-efficacy would be a key element for successful collaboration to occur between speech-language therapists and regular education classroom teachers.

Teacher Self-Efficacy Beliefs

Bandura (1997) defined self-efficacy beliefs as the belief an individual holds regarding his or her capability to learn or complete a task. In addition, Bandura suggested that an individual's self-efficacy in completing a task is related to perceived skill level, as well as the judgment of the individual regarding the possible success of completing a task. Bandura reported that without skills, a task could not be completed, but without self-efficacy, a task may not even be attempted.

Over the past 25 years teacher self-efficacy has been identified as being critical for improving teacher education and educational change (Ashton, 1984; Goddard, Hoy & Woolfolk Hoy, 2000; Rimm-Kaufman & Sawyer, 2004; Wheatley, 2002). The impact of teachers' self-efficacy beliefs has been addressed with regard to:

- teachers' willingness to try different strategies and use new teaching approaches (Ghaith &Yaghi, 1997; Gibson & Dembo, 1984)
- greater classroom-based decision making and positive classroom atmosphere (Borko & Putnam, 1996; Moore & Esselman, 1992; Richardson & Placier, 2001; Tschannen-Moran et al., 1998)
- effective planning and collaboration (Gibson & Dembo, 1984)
- teachers; attitudes toward collaboration (Ceren, 2005).

When individuals have low expectations regarding their behavior, they limit the extent to which they participate in an endeavor and are more apt to give up at the first sign of difficulty. In addition, an individual's self-efficacy beliefs may serve as barriers to their professional development (Hackett & Betz, 1981). Thus, beliefs that individuals hold about their abilities and about the outcomes of their efforts powerfully influence they ways in which they will behave.

When considering whether, and/or how, speech-language therapists collaborate with regular education teachers, the impact of the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with others needs to be considered. Knowing that self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with others affects collaboration, the personnel responsible for pre-service and in-service training can ensure appropriate measures be taken to educate speech-language therapists to work collaboratively with other individuals.

One has difficulty finding studies that explore the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education classroom teachers. Research to explore these beliefs would benefit personnel responsible for

providing in-service and pre-service education to speech-language therapists. Pre-service personnel could plan course work that would enhance the knowledge, skills and confidence necessary for speech-language therapists to work in collaboration with regular education personnel. School administrators could plan staff development opportunities which would enhance knowledge, skills and confidence speech-language therapists have in their ability to voluntarily engage in collaboration with others using various models of collaboration as they engage in shared decision-making to work toward a common goal to provide specific skills instruction to students. Based on a current literature review conducted for this study, improving self-efficacy beliefs of speech-language therapists may increase the likelihood of their willingness to collaborate with others in general and with regular education classroom teachers in particular.

Purpose of the Study

Collaboration has been posited as key to the effective education of students with speech-language impairments. Teacher efficacy beliefs have been found to be a powerful teacher characteristic (Bandura, 1986) which affect many aspects of teacher behaviors and practices. Information that leads to a better understanding of the development of self-efficacy beliefs and the actual self-efficacy beliefs of speech-language therapists relative to their ability, knowledge and skills to collaborate with regular education teachers will enhance the awareness of personnel responsible for pre-service and in-service professional development programs relevant to the needs of speech-language therapists. In addition, discussion regarding financial resources may be made in a manner that influences the positive growth of the self-efficacy beliefs and collaboration skills of speech-language therapists.

Using a mixed-method case study to investigate the self-efficacy beliefs of speech-language therapists in Pennsylvania, this study examined their beliefs and variables perceived to influence speech-language therapists' self-efficacy with regard to their ability to collaborate with regular education classroom teachers. Data from surveys and information from interviews were used to answer the following two research questions:

1. What are the self-efficacy beliefs of speech-language therapists with regard to their ability to collaborate with regular education classroom teachers?
2. What additional preparation, if any, do speech-language therapists believe they need to collaborate with regular education teachers?

Definition of Key Terms

For the purpose of this study, the following operational definitions were used:

Speech-Language Therapist. An individual who works with the full range of human communication and its disorders. These individuals evaluate, diagnose, and treat articulation, phonological, language, voice and fluency disorders in students ages 3 – 21.

Co-Teaching. A service delivery model in which regular education and special education teachers combine their expertise to jointly teach a heterogeneous group of students, with and without disabilities, in a single classroom for part or all of the school day (Friend, 2006).

Collaboration. The direct interaction of two or more equal parties with trust in one another, voluntarily engaged in shared decision-making and shared accountability as they work towards common goals when instructing students (Friend & Cook, 2007).

Self-Efficacy. The belief in one's capabilities to organize and perform the actions or tasks required in order to bring about desired outcomes (Bandura, 1977).

Teacher Self-Efficacy Beliefs. A teacher's judgment of his or her capabilities to bring about the desired outcomes of student engagement and learning (Bandura, 1977).

Service Delivery. Dimensions of service delivery include where the services are provided, by whom, and on what schedule. Service delivery models need to be individualized on the basis of each student's speech and language needs and life circumstances. Service delivery options for speech-language therapists typically include three distinct models: traditional pull-out or direct, classroom-based or collaborative and consultation or indirect.

Traditional Pull-Out Services. The speech-language therapist works directly with an individual and/or small group of students in a separate instructional room or area (ASHA, 1999).

Classroom Based Services. Speech-language services are provided to students directly in the classroom in collaboration with the regular education classroom teacher.

Trans-disciplinary Team. Team members from different disciplines who engage in a high degree of collaboration focusing on holistic goals for the individual, rather than just discipline-specific goals (Glennen & DeCoste, 1997).

Pre-service Training. Education provided to students preparing to teach or become teachers (http://gse.berkeley.edu/research/credearchive/tools/glossary.html).

In-service Training. Education provided to teachers who are currently teaching (http://gse.berkeley.edu/research/credearchive/tools/glossary.html).

Summary

Speech-language services in the schools serve a vital function for students with communication, speech, and language disorders in school settings. The provision of these services has evolved significantly over the past 50 years. This evolution of speech and language services is due to, in part, the change in Federal laws, the recognition of how important language skills are to students' educational progress and the critical need for professionals collaborating to ensure speech-language services become an integrated part of the general education curriculum. Collaboration in instruction is necessary so that students with speech-language disabilities can access the curriculum and receive meaningful educational benefit from the services they receive.

If much needed collaboration between speech-language therapists and regular education classroom teachers is going to successfully occur and continue to develop, self-efficacy beliefs and needed skills of speech-language therapists regarding their ability to collaborate with regular education classroom teachers needs to be explored. What additional preparation, if any, speech-language therapists believe they need to collaborate with regular education teachers also needs to be explored.

A review of the literature in chapter two will include theory, sources, influences, and beliefs of self-efficacy; collaboration, effectiveness of collaboration, challenges and overcoming the challenges of collaboration in education; past and present professional preparation of speech-language therapists; and maintenance of professional credentials of speech-language therapists.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The role of the speech-language therapist in schools has evolved from that of a medical intervention model, whereby students were provided individual therapies focusing on articulation, fluency and voice, to that of an educational model of language facilitation in classroom settings. The change in service delivery requires collaboration between the speech-language therapist and the regular education classroom teacher. The purpose of this study was to investigate the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education classroom teachers. In order to design a study that would answer these questions:

1. What are the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers?
2. What additional preparation, if any, do speech-language therapists believe they need in collaboration to work with regular education teachers?

information and research on self-efficacy was examined along with information and research studies regarding collaboration, the effectiveness and challenges of collaboration and overcoming challenges to collaboration. In addition, past and present professional preparation of speech-language therapists was examined.

A careful review of the literature did not find research that examined the self-efficacy beliefs of speech-language therapists regarding their ability to work in collaboration with regular education classroom teachers. This may be due to the fact that speech-language therapists have historically been educated in a medical model and have

provided medical or clinical based services to students identified with speech and language disorders. However, a number of studies exist on self-efficacy and the self-efficacy of teachers regarding certain subject areas or skills (Hackett & Betz, 1981; Gibson & Dembo, 1984; Emmer & Hickman, 1990;Moore & Esselman, 1992; Allinder, 1994; Borko & Putnam, 1996; Pajares, 1997; Bandura, 1997, 1986, 2001; Ghaith & Yaghi, 1997; Tschannen-Moran, Woolfolk Hoy & Hoy, 1998; Brouwers & Tomic, 2000; Henson, 2001; Darling-Hammond, Chung, & Frelow, 2002; Johnson & Birkeland, 2003). In addition, a large number of studies exist on collaboration (Falvey, 1989; Cook & Friend, 1991; Ryndak & Alder, 1996; Duchardt, Marlow, Inman, Christensen & Reeves, 1999;; Hudson & Glomb, 1997; Mastropieri, 2005). For the purpose of this study, literature that addresses self-efficacy and the self-efficacy beliefs of teachers, collaboration, and professional preparation of speech-language therapists was examined to gain background information, learn what type of similar research has already been conducted and determine what new research is necessary.

Theoretical Framework for Self-Efficacy

The foundations of self-efficacy theory are deeply rooted in the social cogitive theory developed by Albert Bandura. Bandura's (1986) social cognitive theory states that individuals have a system within themselves that enables them to exercise control over thoughts, feelings and actions. In 1977 Bandura described his theory in a study titled "Self-Efficacy: Toward a Unifying Theory of Behavioral Change." He defined self-efficacy as the "belief in one's capabilities to organize and execute the courses of action required in producing given attainments" (p.3). Similarly, in 1997 Bandura described perceived self-efficacy as "a judgment of one's ability to organize and execute given

types of performances" (p.21). Self-efficacy is not concerned with the capabilities or skills an individual has. Self-efficacy is concerned with what the person believes he or she is capable of doing under various circumstances. Self-efficacy judgments are task and situation specific, meaning they are made in reference to some type of goal (Bandura, 1997).

Bandura (1977) argued that individuals exercise control over their environment through creation and development of perceived capabilities of self that become important to the attainment of future goals. Bandura (1986, 2001) along with Lent, Brown and Hackett (1994) noted that self-efficacy beliefs:

> influence whether people think self-enhancingly or self-debilitatingly, optimistically or pessimistically; what course of action they choose to pursue; the challenges and goals they set for themselves and their commitment to them; how much effort they put forth in certain endeavors; the outcomes they expect their efforts to produce; how long they persevere in the face of obstacles; their resilience to adversity; how much stress and depression they experience in coping with taxing environmental demands; and the accomplishments they realize. (Bandura, 2001, p. 2).

According to Bandura's theory, self-efficacy beliefs are the key mediators for behavior and behavioral change and have a great impact on things such as success and failure of a given task (Henson, 2001).

Bandura (1986) noted that self-efficacy beliefs can predict how an individual behaves. Bandura suggested that individuals control the amount of effort they put forth in

an activity in accordance with the outcomes they expect, and the beliefs individuals hold are a greater predictors of behavior than are the actual consequences of an action.

According to Henson (2001), the predictive nature of self-efficacy for any behavioral task makes Bandura's theory important for social scientists and anyone who wants to help individuals change behavior. Bandura believed that self-reflection enables individuals to evaluate their experiences and thought processes. Through the process, individuals come to know their capabilities by knowing the skills they possess, however this knowledge may not always predict performance because of the beliefs that the individual has regrading this knowledge (Pajares, 1997). According to Pajares, although skills are necessary, an individual's beliefs of one's skills have a greater impact on determining behavior than actual skill.

Bandura (2001) stressed that self-efficacy is not the same as self-esteem, locus of control and outcome expectancies. He noted that self-efficacy is a judgment of capability, whereas self-esteem is a judgment of self-worth. Locus of control is not concerned with perceived capability so much as outcome contingencies. Bandura further noted that outcome expectancies are concerned with the judgment of possible consequences of completing a task. Outcomes do play an essential role in shaping self-efficacy beliefs. Pajares (1997) noted that outcomes seen as successful raise self-efficacy beliefs and outcomes viewed as failures lower the beliefs especially if failures occur before a sense of efficacy is firmly established. In the process of developing self-efficacy beliefs, a person engages in a behavior, interprets the results of the action, and using his or her interpretations, creates or develops the beliefs about his or her capabilities. For example, pre-service teachers develop beliefs about their academic capabilities as a result of their

participation in course work and field experiences. These beliefs help determine what they teach and how well they use the knowledge and skills they have learned to teach it effectively (Plourde, 2002).

Sources of Self-Efficacy Development

Individuals shape their self-efficacy beliefs through four main sources of influence which can develop both high and low self efficacy beliefs (Bandura, 1986). The four sources of self-efficacy development are (a) mastery experiences or previous performance achievement, (b) vicarious experiences, (c) verbal persuasion and (d) physiological and affective states. Among these efficacy sources, mastery experiences or previous performance achievement most strongly affects efficacy appraisals (Bandura, 1986). Successes build self-efficacy, while failures decrease it. Thus, developing a resilient sense of self-efficacy experiences in overcoming setbacks, difficulties and obstacles in the pursuit of one's goals can serve a useful purpose in teaching the individual that success usually requires perseverance over time. After people become convinced they can succeed, these individuals are more likely to persevere in the presence of adversity and rebound from setbacks (Bandura, 1986).

The second source for developing self-efficacy beliefs occurs through the vicarious experiences of other individuals. While social comparison and models are considered to be a weaker source of developing self-efficacy beliefs than mastery experiences, social comparison and models are significant and are important in the development of self-efficacy beliefs that influence a person's course of action (Schunk, 1981, 1983, 1989). The impact of modeling on perceived self-efficacy is strongly influenced by perceived similarity to the models. People seek proficient models that

possess the competencies to which they aspire. Seeing people similar in age or ability succeed by sustained effort increases observers' beliefs that they also possess the capabilities to master comparable activities to succeed. Likewise, observing others fail despite their efforts lowers observers' judgments of their own self-efficacy and undermines their efforts (Bandura, 1986).

Verbal persuasion or feedback is the third source for the development of self-efficacy beliefs. While verbal persuasion or feedback enhances the development of individuals' self-efficacy beliefs, the verbal judgment of others has less significance than the other three sources of efficacy beliefs (Zeldin & Pajares, 1997). Effective verbal persuasion cannot be filled with meaningless praise (Bandura, 1997). It must cultivate a person's beliefs in his/her capabilities to attain success. Positive verbal persuasion encourages and gives power to a person's self-efficacy beliefs, while negative verbal persuasion weakens a person's self-efficacy beliefs. Self-efficacy beliefs can weaken through negative verbal persuasion more easily than they can strengthen through positive verbal persuasion (Bandura, 1986).

The fourth and final source for the development of self-efficacy beliefs is through physiological and affective states such as stress, anxiety, fatigue, arousal, and varying moods. People rely, in part, on their somatic and emotional states in judging their capabilities. The intensity of the emotional and physical reactions affects the perception of self-efficacy as does how they are perceived and interpreted. For example, people who have a high sense of self-efficacy view their state of affective arousal as having an energizing affect on performance, whereas people plagued by self-doubt regard their arousal as a debilitating. Likewise, a positive mood enhances perceived self-efficacy,

while a despondent mood diminishes perceived self-efficacy. Negative thoughts and fears regarding one's capabilities seem to lower self-efficacy beliefs and lead to inadequate performances. One must be careful not to judge an individual's competence based on their self-efficacy beliefs.

Influences of Self-Efficacy Beliefs

Understanding self-efficacy beliefs and the influence this construct has on an individual's success allows for understanding an individual's actions. Self-efficacy beliefs influence an individuals' self-regulation, motivation and the choices they make (Pajares, 1997; Herman, Meece, & McCombs, 2000). Most individuals have a tendency to choose activities in which they feel competent and confident and avoid those in which they are not. Therefore, individuals that develop skills and knowledge in collaboration through pre-service and in-service training may develop the competence and the confidence to provide service to students in a collaborative manner.

The self-efficacy construct influences thought patterns and emotions that enable people to pursue goals, rebound from setbacks, persist through hardships and exercise some control over events that affect their lives. This construct has been linked to social skills (Moe & Ziess, 1982), assertiveness (Lee, 1983, 1984), clinical problems, choices people make, perseverance in a task (Bandura, 1983, 1986), and teaching behaviors (Pajares, 1996).

Teacher Self-Efficacy Beliefs

Teacher efficacy is a sub-category of self-efficacy that grew out of Bandura's social cognitive theory (1986). Bandura (1977) defines teacher efficacy as a teacher's judgment of his or her capabilities to bring about the desired outcomes of student

engagement and learning. Fletcher (1990) expands Bandura's definition and defines teacher efficacy as a teacher's judgment of ability to function as an instructional leader in the classroom and contribution to school instructional policy. Teacher efficacy defined by others includes the extent to which teachers believe they have the capacity to affect student performance (Berman, McLaughlin, Bass, Pauly, & Zellman, 1997); confidence in their ability to promote students' learning (Tschannen-Moran & Woolfolk Hoy, 2001); beliefs about their convictions that they can influence how well students learn, even the unmotivated and difficult students (Guskey & Passaro, 1994), perceptions about their own capabilities to foster students' learning and engagement (Shaughnessy, 2004) and the extent to which teachers believe they can control the reinforcement of actions within themselves or in the environment (Rotter, 1966). The definitions of teacher self-efficacy indicate that educators must examine how teacher self-efficacy beliefs develop and how they impact speech-language therapists collaborating with regular education classroom teachers.

Studies about the Development of Teachers' Self-Efficacy Beliefs

Determining if teacher self-efficacy causes or occurs as a consequence of the adoption of good teaching techniques is difficult (Ross, 1994). According to Bandura (1997), positive change in self-efficacy occurs only when persuasive feedback forcefully disrupts the preexisting disbelief in one's capabilities.

Ross (1994) found that personal teaching efficacy appeared to be influenced by different levels of preparation and professional development. Personal teaching efficacy beliefs in experienced teachers appear to be particularly difficult to change because of the internal nature of beliefs that have solidified with experience and time. However,

professional development opportunities can affect teachers' efficacy beliefs by compelling teachers to think critically and behave in a manner that improves their classroom and instructional practices (Henson, 2001).

Teacher self-efficacy beliefs play a key role in teachers' development of knowledge and practices that influence their effectiveness in instructional strategies, interaction with students and other professionals, and their commitment to a career in teaching (Smylie, 1988; Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998). Teacher self-efficacy also predicts students' achievement beliefs. The evidence about teacher self-efficacy makes it an important construct in promoting educational reform and improving teacher education (Goddard, Hoy, & Woolfolk-Hoy, 2000; Rimm-Kaufman & Sawyer, 2004; Ross, 1998; Wheatley, 2002). This evidence has also provided justification for educational opportunities that promoted the development of high levels of teacher self-efficacy in pre-service and in-service teachers.

Teacher Self-Efficacy of Novice Teachers

A few longitudinal studies have tracked teacher self-efficacy with pre-service and novice teachers. Bandura's (1977) research found that self-efficacy develops more easily in the early years of learning. Woolfolk-Hoy (2000) extended this notion to imply that the early years of teaching could be critical to the long term development of teacher self-efficacy. Some of the most powerful influences on the development of teacher self-efficacy take place during student teaching and the induction year through mastery experiences (Bandura, 1986; Woolfolk-Hoy, 2000). When teacher self-efficacy beliefs become established they appear to resist change.

Woolfolk-Hoy (2000) suggested that the self-efficacy beliefs of first-year teachers are influenced by levels of stress, commitment to teaching, satisfaction with support, and preparation. Beginning teachers with high levels of self-efficacy found satisfaction in teaching, experienced less stress and had a more positive reaction to teaching, and gave higher ratings to the support they received from other school personnel (Woolfolk-Hoy, 2000). Novice teachers with high levels of teacher efficacy felt that they experienced high quality teacher preparation. They also felt that teaching was not as difficult, unlike teachers with low efficacy who reported more difficulty (Hall, Burley, Villeme, & Brockmeier, 1992). Based on the work of Henson (2001); Smylie (1988); Tschannen-Moran, Woolfold-Hoy and Hoy (1998); Ross (1998); Goddard, Hoy and Woolfolk-Hoy (2000); Wheatley (2002); Rimm-Kaufman and Sawyer (2004) and Bandura (1977) every effort must be made to ensure that young teachers develop strong self-efficacy beliefs so they will have the confidence to work collaboratively with colleagues to meet the unique and challenging demands of students with disabilities who are placed in a variety of educational settings.

Theoretical Framework for Collaboration

Collaboration refers to the way in which professionals interact with each other as they work together to instruct students**.** More specifically, collaboration is the direct interaction of two or more equal parties voluntarily engaged in shared decision-making as they work toward a common goal of instructing students (Friend & Cook, 2007). In a collaborative instructional approach one regular education teacher and one related service professional such as a speech-language therapist (Friend & Cook, 2007) work together to provide instruction, accommodations and modifications for all students in the regular

education classroom (Gerber & Poop, 1999). Friend and Cook (2003, 1992) have developed a list of defining characteristics of collaboration. According to their framework, collaboration is voluntary and teachers share mutual goals, resources, and responsibility. There is parity between teachers and both have shared decision making and shared accountability. Collaboration is marked by trust in one another, a sense of community exists for all parties and the parties value this interpersonal style of interacting.

The research findings of Walther-Thomas, Bryant, and Land (1996) focused on inclusion and teaming between teachers to assess collaboration between regular education and special education staff. In schools where collaborative teaching has been practiced, regular education students and students with special needs have benefitted. Staff reported professional growth, personal support and enhanced teaching motivation. Collaboration brought complementary professional skills to the planning, preparation, and delivery of classroom instruction. Benefits to students were attributed to more teacher time and attention, reduced pupil-teacher ratios, and more opportunities for individual assistance.

A study in 1992 conducted by Rainforth, York and Macdonald supported the collaborative teamwork approach. It studied integrating related services in educational programs for students with severe disabilities. The research found that the day to day actions of individual team members are shaped by a combination of foundational knowledge, and personal values. Effective teams explore the knowledge and values of their members, and work to articulate a set of beliefs that all members can support. These shared beliefs largely determine the nature and scope of the collaborative teamwork employed in the design and implementation of education, including the provision of

related services. When teams experience conflict, it occurs because they have not established this foundation and each individual team member operates from a different set of beliefs and assumptions.

According to Falvey (1989), collaborative teaming develops realistic and meaningful strategies for including students with diverse needs in community and school settings. Even more important, the approach furthers the process of developing and implementing viable inclusion strategies. Collaborative teaming is a synergistic model that strengthens through the contribution of each of its working parts. Through the process of combining separate expertise and skills to achieve a common goal, a collaborative team is able to accomplish much more together than the individuals could working alone. As individuals work together in a team effort with a common vision or goal, drawing upon the resources and strengths of each individual involved, they enhance their ability to achieve their purpose.

Vaughn, Schumm, and Anguelles (1997) demonstrated that important components of effective collaborative practices should include shared ownership of students and their academic progress, space, communication, classroom management and planning time. Teachers learning and working together to achieve a common goal is considered by many researchers to be a key element of school reform efforts, including those targeted at improving the inclusion of students with disabilities in regular education settings (Darling-Hammond & McLaughlin, 1995; Johnson & Bauer, 1992; Pugach & Johnson, 2002). Pugach and Johnson (2002) stated

> . . ".in collaborative working environments, teachers have the potential to create the collective capacity for initiating and sustaining ongoing improvement in their

professional practice so each student they serve can receive the highest quality of education possible" (p. 6).

Teachers and students benefit when given the opportunity to work and learn together (Rosenholtz, 1989; Snyder, 1994; Pugach & Johnson, 1995; Louis, Kruse, & Marks, 1996; Walther-Thomas, 1997; Trent, 1998). When individuals collaborate, information and skills are transferred between team members, encouraging individuals to focus on holistic goals for students instead of on discipline-specific goals. Transferring information between team members enables individuals to share responsibility for delivering quality instruction and services to students.

Collaborative Teams and the Effectiveness of Collaboration

Through collaboration individuals provide the most effective education services for a set of students, allowing students to maximize their participation in and contribution to life at school, at home and in their community. Ryndak and Alper (1996) define a collaborative team in an educational setting as a group of equal individuals who voluntarily contribute their knowledge and skills and participate in shared decision-making, while focusing on the efficiency of the whole team, as they work together in a spirit of willingness and mutual reward to problem solve and accomplish one or more common and mutually agreed upon goals.

Co-planning, and co-teaching arrangements can result in positive outcomes such as: developing trust and flexibility, collegiality, forming teaching and learning partnerships, developing professionally, meeting the needs of diverse learners and meeting the needs of teachers through teaming and problem solving, (Duchardt, Marlow, Inman, Christensen & Reeves, 1999).

An effective team of educators should work together as equal partners in interactive relationships, with everyone involved in all aspects of planning, teaching and assessment. Areas for collaboration include curricula and instruction, assessment and evaluation, and classroom management and behavior. As one teacher stated,

> . . .”the key to making co-teaching work is joint planning. You must both know the curriculum so that you can switch back and forth and support each other’s efforts. If you don’t know the curriculum you are not a co-teacher, you are just an assistant” (Crutchfield, M. in press).

The key components for establishing collaborative partnerships in delivering services to children with communication disorders was described by Prelock, Miller and Reed (1995). They discussed establishing a trans-disciplinary approach to teaming, marketed the collaborative concept to enlist administrative support and recruit teachers, provided collaborative in-service training, and collaboratively planned and implemented lessons. They advocated moving beyond just the speech-language support teacher providing services within the classroom to collaborative teams sharing the responsibility for making decisions in the delivery of services to children with communication disorders.

The benefit of collaboration was observed by Bland and Prelock’s study (1995) in which students in classroom settings were observed to develop better oral language skills than those who received more traditional pull-out instruction. Classroom rather than traditional pull-out instruction was also supported in a study by Throneburg, Calvert, Sturm, Paramboukas and Paul (2000). This study evaluated the effectiveness of three service delivery models for delivering speech and language services in the elementary

school setting. Differences were investigated among a collaborative model, a classroom-based intervention model with the speech-language therapist and classroom teachers working independently and a traditional pull-out model for children in kindergarten through third grade who qualified for speech or language services (the same curricular vocabulary targets and materials were used in all models). Results indicated that the collaborative model was more effective for teaching curricular vocabulary to students who qualified for speech-language services than a traditional pull-out model or a classroom-based model. Furthermore, the findings for students who were not enrolled in speech or language services indicated the collaborative model increased vocabulary skills more in these students than receiving only regular instruction from the classroom teacher.

The Importance of Collaboration in Education

It is essential to take steps to address the needs of children with speech and language difficulties. To be successful in school, students must be able to achieve curriculum goals that depend upon effective communication skills. This has challenged speech-language therapists to consider models of service delivery other than pull-out instruction (Prelock, Miller & Reed, 1995). Speech and language skills are so important in education that children with speech and language difficulties are at a disadvantage unless their unique and special needs are recognized, understood, and addressed in the classroom (Dockrell & Lindsay, 2000). Speech and language difficulties have been linked with problems in developing literacy (Dockrell & Lindsay, 1998) and difficulties with social behavior and self-esteem (Botting & Conti-Ramsden, 2000). Research shows that children who have unidentified speech and language difficulties appear to be more at risk of being excluded in school (Ripley & Yuill, 2005), and research links speech and

language problems to emotional and behavioral difficulties as well as psychiatric problems in later life (Cohen & Menua, 1998). Therefore, educators must continue to take steps to address the needs of children with speech and language difficulties. Unlike traditional pull-out services, collaborative service delivery bridges the gap between traditional speech-language therapy and the on-going communication demands of the classroom. The collaborative service delivery model promotes use of relevant content for therapy, enhances student involvement in the therapy process, and provides the opportunity for inter-professional growth among teachers (Magnotta, 1991).

Collaborative Service Delivery with Speech-Language Therapists

Special education consultation has been employed for several decades (Cook and Friend, 1991). Its evolution began with The Vermont Consulting Teacher Program in the 1970s. This program, using a consultative approach, prepared special education teachers to collaborate with regular education teachers who then provided special services in general education classes to students with disabilities.

The University of Vermont utilized a team process for making related service decisions. The process, known as the Vermont Independent Services Team Approach (VISTA), advocates that more time be spent attending to collaborative teamwork practices such as being a learner, developing a shared framework, clarifying roles, building consensus and involving families and teachers. It encourages the interaction of the students and teachers in natural ways to ensure that the students with disabilities receive an appropriate and meaningful education as the primary goal (Giangreco, 2000).

In 1995, Prelock from the University of Vermont provided a speech-language therapists' perspective regarding collaboration. Prelock suggested that collaboration be

perceived as an interaction among individuals who work toward a common goal. This may help develop trust and respect for what others can provide during the collaboration process. The process is very important, but the people who are involved determine the dynamics and success of what occurs.

As early as 1992, the School District of Philadelphia advocated an integrative approach to providing services to students identified with speech and language disabilities. Farber, Denenberg, Klyman, and Lachman (1992) examined an approach for providing an intensive level of language treatment which combined the traditional pull-out method with instruction received in the classroom. The speech-language therapists assumed the role of co-teacher, consultant, and direct treatment provider. The approach proved to be successful for increasing the level of support provided to students with speech-language disabilities.

The American Speech-Language-Hearing Association Ad Hoc Committee on Inclusion for Student with Communication Disorders (1990) proposed that collaborative service delivery could augment traditional methods and further support curriculum content for serving students with language-learning disorders. They advocated the development of a trans-disciplinary team consisting of the speech-language therapists, educators, the parents, and the student. All team members knew the student's entire curriculum, and team members shared responsibility for specific educational goals. Most special services, as well as regular instruction, took place within the classroom. Administrative support and cooperation among team members were cited as crucial elements necessary for success.

In an effort to fill an increasing demand for models that incorporated team decision-making, and participation, Blosser and Kratcoski (1997) provided a framework to help speech-language therapists determine an appropriate service delivery option for their students. It encouraged speech-language therapists and their colleagues to consider the unique combination of providers, activities and contexts necessary to meet the specific needs of each individual with a communication disorder. A collaborative team approach provides an efficient way to foster positive outcomes for children with language impairments (Kaczmarek, Pennington, & Goldstein, 2000; Moore-Brown & Montgomery, 2001). A collaborative approach targets communication goals and language-based academic goals. Speech-language therapists can use curriculum content during intervention to reinforce classroom instruction, whereas teachers can reinforce communication goals in daily activities (Silliman, Ford, Beasman, & Evans, 1999). For example, providing collaborative interventions can help children improve their peer interactions, which in turn enhances their peers' perceptions of communicative competence, leading to more opportunities for interaction (Goldstein, English, Sharer, & Kaczmarek, 1997). Thus, collaboration between regular education classroom teachers and speech-language therapists can provide positive benefits for children with language impairments in both routine communicative events and academic achievement.

Ellis, Schlaudecker and Regimbal (1995) conducted a study with kindergarten children in which a speech-language therapist, university faculty, a classroom teacher, and a physical education teacher collaborated to deliver basic language concept instruction. Children in the experimental group demonstrated significantly higher performance on target language concepts than a control group that received the regular

education program. The success of this collaborative model had broad implications related to the changing role of the speech-language therapist. Providing services through collaboration allows the speech-language therapist to use time more efficiently. As teachers are taught to integrate language into their curriculum, the speech-language therapist will reach more children without directly being in the classroom.

A study conducted by Hadley, Simmerman, Long and Luna (2000) explored the effectiveness of a collaborative classroom-based model in enhancing the development of vocabulary, and phonological awareness skills for kindergarten and first grade children in an inner city school district. In two classrooms, a speech-language therapist taught two and one half days per week. The speech-language therapist and the regular education teachers engaged in joint curriculum planning on a weekly basis. They embedded vocabulary and phonological awareness instruction into the ongoing curricular activities. They planned explicit instruction in phonological awareness for a 25-minute small group activity center weekly. After six months, superior gains occurred in receptive vocabulary, expressive vocabulary, beginning sound awareness, and letter-sound associations for children in the two classrooms. The results indicate the positive benefits of collaboration in facilitating the language abilities of inner-city children who are at risk for academic difficulties in the early elementary grades.

Similarly in a study conducted by Calvert & Thorneburg (2003) students who received services through a collaborative model made significantly more progress with speech sound production, although they received approximately half as much practice of their target sounds during classroom based instruction compared to pull-out intervention with the speech-language therapist. Greater progress may have resulted because of better

generalization and because peers and teachers observed the type of cues and positive feedback the speech-language therapist used for articulation errors. They also reported giving the children with articulation impairments reminders or practice throughout the week.

Studies comparing collaborative intervention with control classes also showed positive results using a collaborative model of service delivery. Kaufman, Prelock, Weiler, Creaghead and Donnelly (1994) compared two third-grade classrooms to determine if classroom collaboration between a regular education classroom teacher and a speech-language therapist would improve students' abilities to provide verbal explanations during math instruction. Pre- and post-program testing of both experimental and control classes revealed that children receiving collaboratively taught lessons improved their ability to use language to express how to solve a problem. Students in the control group did not improve in this area. Additionally, the teacher of the third-grade class felt that students questioning and problem-solving skills improved.

Because teachers have access to students most of the day they can seize opportunities to provide ongoing assessment and feedback for speech-languag therapists. They can facilitate generalization of students' target skills, and strategies. When alliances are developed between educators with different domains of expertise, each can accomplish more than either could individually, and students benefit (Santos, 2002).

The Challenges of Collaborating and Overcoming Challenges to Collaborating

Even though the success of collaborative efforts has been documented, there are challenges that need to be acknowledged and considered for successful collaboration to occur. In 1991 the American Speech-Language-Hearing Association (ASHA) stated

no one professional has a sufficient knowledge base or expertise to carry out all the functions associated with providing educational services for students. As a result of this belief, ASHA proposed a collaborative service model for students with language-learning disorders in public schools. However, when a range of professionals from different disciplines try to work together, problems can arise due to limited information about each other's specific skills, knowledge and intervention strategies (Norwich, 1990).

When many teachers collaborate, differences can emerge and they run headlong into conflicts over professional beliefs and practices (Achinstein, 2002; Friend & Cook, 1992). These conflicts are a natural reaction. Many teachers feel uncomfortable with conflict; may find it awkward and prefer to avoid tackling issues instead of participating in a conflict (Friend & Cook, 1992). However, conflict may also provide a benefit because conflict indicates that professionals are sharing real ideas with conviction. Furthermore, management of the conflicts may define the classroom borders and encourage organizational learning and change (Achinstein, 2002; Friend & Cook, 1992).

In the Dallas Independent School District, Achilles, Yates and Freese (1991) pointed out that the most significant obstacles encountered when trying to implement collaborative efforts were administrative support, joint staff development training and shared accountability for implementing language goals into the general education classroom curriculum**.** Roller, Rodriques, Warner and Lindahl (1992) also identified ownership along with flexibility and openness to new ideas as a challenge of collaborating. The researchers further pointed out the importance of both administrative and parental support. Cook and Friend (1990) and Friend and Cook (1992) also explained that administrators who want to foster teacher collaboration need to devote considerable

attention to this matter. The traditional culture of schools has rewarded teachers who were content with working alone and receiving few benefits and little input from others. Consequently, teachers who are comfortable with traditional schools may find collaboration frightening. They may fear that they do not have a significant contribution to make; they may be concerned that the personal cost in terms of time is too great; or they may worry that others will evaluate their skills

Studies conducted by Cook and Friend (1991); Idol and West (1991); and Redditt (1991) identified time as a primary barrier to collaboration. In some schools, significant time was taken away from pupil instruction because collaboration became so important. In other schools, the lack of adequate time to collaborate led to hasty problem solving and unsuccessful quick fix ideas. In yet other schools, the absence of time prevented teachers from employing many of the more sophisticated collaboration approaches available. The work of Ireson (1992) further suggested that if collaboration occurs, 'simply because two teachers are timetabled to work together,' it places unrealistic expectations on the staff involved and devalues the collaborative process.

Elksnin and Capilouto (1994) surveyed speech-language therapists about integrated service delivery. The results of this study underscored the need to address possible barriers such as scheduling, resource allocation, the provision of adequate planning time and the need for in-service training to enable them to work effectively in a classroom. These are issues that must be discussed and negotiated by speech-language therapists and classroom teachers as they work with school administrators to plan collaborative service delivery. Generating administrative support for adequate and

appropriate planning time is a critical first step to implementing collaboration (American Speech-Language-Hearing Association, 1991b).

Trust, open communication, and shared goals foster collaboration and teamwork. Individuals feel committed to organizations that embrace their values (O'Malley, 2000); thus, when a team-oriented individual reports a strong commitment to the organization, an organized collaborative culture usually exists. Because a correlation exists between collaborative environments and positive student and professional outcomes, schools should attempt to create environments where collaboration can thrive.

Lacey and Lomas (1993) suggest that in addition to therapy and education-based knowledge and skills, teachers must address personality and attitude-based skills. These authors suggest that some of the skills required for collaboration can be taught while others are innate. In addition to being specialists, team members must feel willing to collaborate and accept of the role of learner. Star and Lacey (1996) further suggested that collaboration requires mutual respect for each individual's skill set and contributions.

Professional Development of Speech-Language Therapists

Past Professional Preparation of Speech-Language Therapists

Different levels of professional development and quality teacher preparation positively influences teacher self-efficacy beliefs (Hall, Burley, Villeme, & Brockmeier, 1992; Ross, 1994), thus making it more likely these individuals will have the confidence to work in collaboration with other colleagues (Smylie, 1988; Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998). Self-efficacy develops more easily in the early years of learning (Bandura, 1977) and some of the most powerful influences on the development of teacher self-efficacy take place during student teaching through mastery experiences

(Bandura, 1986; Woolfolk-Hoy, 2000). Given this, it is important to understand and appreciate the shifts in professional development and preparation for speech-language therapists.

While public schools offered speech services in the early 1900s, no official professional development programs came into operation until the 1930s. In 1916, the University of Illinois offered the first courses in speech science. These courses included phonology, phonetics, psychology of audition, physics of sound, and physiology of the voice. In 1923 the University of Wisconsin catalog listed a course in the correction of speech disorders. By the mid-1930s four universities - Illinois, Iowa, Michigan and Wisconsin - offered courses in speech therapy. The beginning of the growth of a profession concerned with disorders of communication began in the late 1930s and early 1940s. The period of greatest growth due to national and state legislative funding occurred between 1950 and 1960.

Present Professional Preparation of Speech-Language Therapists

The United States Department of Labor, Bureau of Labor Statistics (2008) reports most speech-language therapists' jobs require a master's degree. In 2007 more than 230 colleges and universities offered graduate programs in speech-language pathology. Fourteen of those universities are in Pennsylvania. Courses offered by these colleges and universities cover anatomy, physiology, and the development of the areas of the body involved in speech, language, and swallowing; the nature of disorders; principles of acoustics; and the psychological aspects of communication. Graduate students also learn to evaluate and treat speech, language, and swallowing disorders and receive supervised clinical training in communication disorders. Training provided by colleges and

universities in Pennsylvania was of interest to the researcher because this study was limited to speech-language therapists working in the schools in Pennsylvania.

In 2007, 47 states regulated speech-language jobs through licensure or registration. Forty-one states have continuing education requirements for licensure renewal and only12 of the 41 states require this same license to practice in the public schools. The other states issue a teaching license or certificate that typically requires a master's degree from an approved college or university. A few states grant a full teacher's certificate or license to bachelor's degree applicants. Currently, Pennsylvania requires speech-language therapists to hold a valid professional certificate in the area of speech and language impaired. Although the Pennsylvania Department of Education does not require speech-language therapists working the in schools to have a master's degree, colleges and universities in Pennsylvania accredited by the American Speech-Language-Hearing Association do not certify individuals in speech and language at the bachelor's level. Despite the advanced degree needed for certification as a speech-language therapist to practice in the schools in Pennsylvania, course work on collaboration is not required from any of the 14 colleges and universities in Pennsylvania (Retrieved April 14, 2011, from the college and university websites).

Maintenance of Professional Credentials in Pennsylvania

In Pennsylvania, the Speech-Language and Hearing Licensure Act safeguards the public from unprofessional conduct on the part of qualified speech-language pathologists and assures the availability of the highest possible quality of speech and language services to individuals identified with communication disorders in the Commonwealth. The Licensure Act requires the completion of 20 clock hours of continuing education in

order to maintain licensure for speech-language professions under the Act (Section 5(5) of Act 238 of 1984). Any courses or programs that are approved or sponsored for continuing education by the American Speech-Language-Hearing Association (ASHA) or approved by the Board (Section 45.505(d)) will qualify an individual for maintenance of a current license.

Pennsylvania's continuing professional education law, Act 48-1999, requires all education professionals to complete 180 hours of professional development every five years relates to an area of the professional educator's assignment or certification. The 180 hour requirement can be met with six college credits, six credits of continuing professional education courses, 180 clock hours of continuing professional education, or any combination of collegiate studies, continuing professional education courses or other programs, activities or learning experiences equivalent to 180 hours. All Act 48 professional development must align to the specific needs of the students whom the educator serves. Professional development must be research based and it must be part of an approved plan for building educators' skills over time. Pennsylvania's professional development law, Act 48 of 1999, does include mandatory requirements for certified educational professionals to receive training in collaboration.

The American Speech-Language-Hearing Association (ASHA) 2005 Standards and Implementation Procedures for the Certificate of Clinical Competence (CCC) in Speech-Language Pathology became mandatory for all speech-language pathology applicants whose applications for certification were received by January 1, 2006. The applicant for certification in speech-language pathology must complete a minimum of 400 clock hours of supervised clinical experience in the practice of speech-language

pathology. He/she must spend twenty-five hours in clinical observation and 375 hours must be spent in direct client/patient/student contact. Individuals who hold their CCC in Speech-Language Pathology must accumulate 30 contact hours of professional development over a three year period in order to meet this standard. This must repeat every three years or the Certificate of Clinical Competency will lapse. While ASHA requires the accumulation of three Continuing Education Units (CEUs) or 30 contact hours, it does not require specific content.

Summary

The delivery of speech-language therapy services is multi-dimensional involving self-efficacy, knowledge and skills in collaboration. The collaborative model can increase the likelihood that students identified with speech-language disorders receive the support they need to succeed in the general education classroom. Collaborative service delivery bridges the gap created by traditional or pull-out speech-language therapy and the communication demands in the classrooms of today. A collaborative service delivery model promotes use of relevant content from the student's curriculum for therapy, enhances student involvement in the therapy process, and provides the opportunity for inter-professional growth (Magnotta, 1991). Prelock, Miller, and Reed (1995) concluded that teachers and speech-language therapists should receive collaborative in-service training. Teacher-speech-language therapist partnerships improve when both individuals participate in workshops integrating communication and regular education issues and have opportunities to discuss and apply this information in their instructional environment.

Researchers equate teacher effectiveness in co-taught and collaborative classrooms with teachers' content knowledge and task specific expertise. Teacher self-efficacy, a content, task-specific construct, has been linked to teacher performance and student outcomes (Bandura, 1997; Tschannen-Moran, Woolfolk-Hoy and Hoy, 1998). Research suggests that teacher self-efficacy provides a powerful construct in the educational process (Shahid & Thompson, 2001). Furthermore, research-based evidence suggests that the development of the existing levels of teacher self-efficacy beliefs influence many variables of teaching practices in collaborative education environments (Hastings & Oakford, 2003).

According to Pajares (1997) and Bandura (1997), although skills are necessary, an individual's beliefs regarding his/her skills have a greater impact on determining behavior than actual skills. A strong sense of efficacy should increase teachers' accomplishments and attitudes towards collaborative environments. Teachers with high confidence in their abilities view difficult tasks as challenges to be accomplished, not avoided (Bandura, 1986, 2001). Therefore, researchers must examine the construct of speech-language therapists' self-efficacy beliefs about training in collaboration.

Teacher self-efficacy beliefs powerfully affect many aspects of teacher behavior and practices (Bandura, 1986). Information that leads to a better understanding of the current training speech-language therapists receive in collaboration and self-efficacy beliefs of speech-language therapists, in regards to their ability, knowledge and skills to collaborate with regular education teachers, will raise and enhance awareness of what specifically should be included in future pre-service and in-service professional development programs.

Chapter three will discuss the research methods and procedures that led to a better understanding of the self-efficacy beliefs of speech-language therapists in regard to their ability to collaborate with regular education teachers. Chapter three discusses the participants, design and the setting of the study; the data gathering instruments; the pilot study conducted on the data gathering instruments; the data collection and data analysis procedures; assumptions and limitations of the study; and concludes with a summary section.

CHAPTER III

METHODS AND PROCEDURES

Introduction

This study investigated the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education classroom teachers. This initial investigation of the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education teachers, involved only speech-language therapists working in Pennsylvania. A mixed method case study was designed to investigate: the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers and what additional preparation, if any, did speech-language therapists believe they need in collaboration to work with regular education teachers.

By combining quantitative and qualitative approaches within the same inquiry, this researcher was able to probe further into the dataset obtained in order to understand its meaning while using one method to verify findings stemming from the other method. This fundamental principal and strength of a mixed method study is supported by the work of Johnson and Turner (2003) and Onwuegbuzie and Teddlie (2003). Noted by the work of Newman, Ridenour, Newman and DeMarco (2003) and the work of Greene, Caracelli and Graham (1998) the purpose of conducting mixed-methodological studies support: (a) triangulation by seeking convergence and corroboration of findings from different methods that study the same phenomenon; (b) seeking enrichment, illustration, elaboration and clarification of the findings from one method with results from the other method; (c) using the findings from one method to help inform the other method; (d)

seeking to expand the breadth and range of inquiry by using different methods for different inquiry components. A case study was appropriate because case studies are designed to reveal the details of the viewpoints of the participants by using multiple sources of data (Tellis, 1997). This mixed-method case study incorporated the use of surveys and interviews.

This chapter describes the methods and procedures used in the study including the survey respondents and interview participants in the study, the settings of the study, the data sources and the pilot study to establish their validity; the data collection and analysis procedures; followed by the assumptions and limitations of the study.

Surveys and Interviews

Surveys followed by interviews were used to uncover information about speech-language therapists' self-efficacy beliefs regarding their skills to collaborate with regular education teachers. Since the initial phase of this research was to learn about the distribution of characteristics, attitudes, and beliefs from a large homogeneous group of people (speech-language therapists working in educational settings in Pennsylvania) and to describe the various responses of the individuals in the study, a survey was deemed the appropriate mode of inquiry (Marshall & Rossman, 2006). Interviews were used to gain a deeper understanding of the information gathered in the surveys.

To discover and describe multiple views of a case, the interview is the best tool (Stake, 1995). Semi-structured interviews allowed the researcher to gather in-depth information about individual speech-language therapists' beliefs regarding their skills to collaborate with regular education teachers. The interviews enabled the researcher to gain information not accessible through surveys such as beliefs, perceptions, attitudes and

values. Hitchcock and Hughes (1989) describe semi-structured interviews as one way to obtain more in-depth information. They provided the opportunity on the part

> of the interviewer to probe and expand the interviewee's responses. . . .Some kind of balance between the interviewer and the interviewee can develop which can provide room for negotiation, discussion, and expansion of the interviewee's responses (Hitchcock & Hughes, 1989, p. 83).

In the semi-structured interviews, the interviewer was in control of the process of obtaining information from the interviewee, but freely followed new leads as they arose (Bernard, 1988). The speech-language therapists' rich responses provided in-depth information to the researcher regarding self-efficacy beliefs about their ability to work in collaboration with regular education classroom teachers which complemented information from the surveys.

Respondents and Participants

The respondents surveyed and participants interviewed were selected from speech-language therapists working in school districts in Pennsylvania.

Survey Respondents

The surveyed speech-language therapists were members of the Pennsylvania Speech-Language-Hearing Association (PSHA) who identified their primary work setting as "a school or school district" and had a published email address in the 2008 PSHA Membership and Resource Directory (n = 343). The PSHA Membership and Resource Directory was used because the researcher was interested in a purposeful sample and this resource provided access to this population.

An accessible and purposeful sample was used for this study. Purposeful sampling is based on the assumption that the investigator wants to discover, understand, and gain insight and therefore must select a sample from which the most can be learned (Patton, 1990). A purposeful sample was used because the researcher was exploring the self-efficacy beliefs of speech-language therapists regarding their pre-service and in-service preparation in the area of collaboration with regular education classroom teachers. The study did not investigate the professional preparation received by educators who were not speech-language therapists.

Interview Participants

The interview participants were a subset of the population who decided if they wanted to take part in the interview by voluntarily supplying their name and contact information on the last question of the Zoomerang survey. Survey respondents who were willing to be interviewed constituted the interview sample. Twenty-three survey respondents supplied their name and contact information indicating they were willing to participate in an interview. Eight of those individuals failed to respond to contacts made by the researcher, one individual rescinded the initial consent, and three individuals indicated they were too busy to participate in an interview. Interviews were conducted with 11 speech-language therapists currently working in schools in Pennsylvania using the interview instrument developed by the researcher.

Settings

Survey Setting

Participants were selected from across the state of Pennsylvania to participate in the surveys and the interviews. A letter introducing the survey (see Appendix B) was sent

electronically to invite speech-language therapists to participate in the study. This letter served to inform potential survey respondents of the researcher's study as well as request their participation. This letter explained that participation in this study was completely voluntary and had no affiliation with any school district or Pennsylvania system of higher education. Therefore, should the potential respondents choose not to participate, there would be no adverse consequences to them or their employment. With web-based surveys all respondents remain completely anonymous. Because this was an electronic survey, their participation in the survey also served as their consent for participation in the study. The introduction letter contained a web address that linked participants to a Zoomerang survey, a confidential, online survey authoring and tabulating tool with the capability to analyze results through descriptive statistics (Gunderloy, 2007). A Zoomerang survey was chosen because it is a confidential and user friendly tabulating tool with the capability to analyze results (Gunderloy, 2007). Zoomerang has the capacity to survey large number of respondents and the researcher was familiar with Zoomerang and had access to it. Kaplowitz, Hadlock and Levine (2004) recommended e-mail/web-based surveys in general over fax and mail surveys. This was appropriate for three reasons: first, web based methodology yields a higher response rate at less cost and more rapidly than mail surveys; second, educators have access to e-mail in the United States; finally, because web surveys code the data automatically, tabulation of data is fast and precise. Respondents answered the questionnaire at their convenience during the time allotted and at a time and location where they felt comfortable. All participants had one week to complete the survey. Results were electronically returned. The researcher

reviewed and collated the data from 164 of the 248 surveys that were electronically sent and received by the survey participants through Zoomerang.

Interview Setting

Speech-language therapists; working in schools; from north-east, south-east, central and south-west Pennsylvania were interviewed. One survey participant from north-west Pennsylvania expressed interest in being interviewed however this individual did not respond to any of the contacts made by the researcher to participate in the interview. The researcher contacted the self-identified interview participants by phone. Phone interviews were conducted due to the geographically dispersed participants. Although probing was more difficult because the interviewer was unable to see the respondent's face and body language, probing occurred based on vocal inflection, pauses and other verbal behavior exhibited by the participants.. An informed consent document for interview participants as prescribed by the Institutional Review Board for the Protection of Human Subjects guidelines (see Appendix D) was read to each participant prior to the interview. After obtaining a taped verbal consent from the individual to participate in the study, a telephone interview was conducted. The interview participant was instructed that any time and for any reason, the interview could be stopped and continued at a later date or permanently be stopped. Each interview participant was made aware of the fact that the questions did not encourage any specific type of response. Also, any unclear question could be clarified. A speaker phone allowed the researcher to take notes and tape record responses during the interview.

Data Gathering Instruments and Pilot Study

A five-part survey instrument (see Appendix C) gathered information from a sample size of (N = 164) speech-language therapists in Pennsylvania to reveal the self-efficacy beliefs of speech-language therapists regarding their perceived skills to collaborate with regular education classroom teachers. A five-part interview instrument (see Appendix D) gathered more in-depth information from the self-selected sample (N = 11) of speech-language therapists who had participated in the survey.

Survey Instrument

Close ended survey questions required the participants to select a response from a field of options and five-point Likert type responses.

Part I of the survey instrument (see Appendix C) consisted of eight questions that sought demographic information. The demographic data provided the basis for analyzing the variables of employment, experience, education, certifications and licensure. Data was not collected on gender because females dominate the field of speech-language pathology. The number of male constituents of the American Speech-Language-Hearing Association (ASHA) has declined. According to ASHA, males comprised 8.3 percent of its membership in 1997, dropping to 6.5 percent by the end of 2004. Currently 4.5 percent of speech-language therapists are men (ASHA, 2005).

Part II of the survey instrument consisted of six questions regarding the participants' pre-service education with a focus on collaboration: the highest degree obtained in speech-language pathology and date received, the courses taken that were on collaboration that were entirely or partially devoted to collaboration, the courses in other areas that addressed collaboration, the approximate amount of time spent discussing

collaboration, and the participants' experiences working in collaborative settings during any clinical, practicums' and/or student teaching experiences. Questions in Part II of the survey revealed the perceived impact, if any, of course work, types of course work, and experience to gain mastery skills that may have on participants' self-efficacy development (Bandura, 1986; Plourde, 2002; Schunk, 1981, 1983, 1989; Zeldin & Pajares, 1997; Moore-Esselman, 1992; Ross, 1994; Henson, 2001).

Part III of the survey instrument consisted of six questions that addressed the participants' continuing education also focusing on collaboration. These questions provided the basis for gathering and analyzing information regarding sources of continuing education, reasons for participating in continuing education activities, continuing education activities perceived to be most beneficial, and reasons for providing instruction in collaboration with regular education classroom teachers. The questions also revealed if the interviewees had experienced therapy/instruction in a collaborative classroom with a regular education classroom teacher as part of their current or past employment situation that may count as professional development in this area. Questions in Part III of the survey helped to determine the perceived impact different levels of training and professional development had on participants' teacher self-efficacy beliefs (Ross, 1994).

Part IV of the survey contained three sections each with multiple questions that probed speech-language therapists about their beliefs regarding their skills and knowledge for working in a collaborative setting using the constructs of collaboration discussed in the literature review. Part IV of the survey also asked the participants to rate their perceptions regarding their self-efficacy beliefs and the skills they possess to

collaborate with regular education teachers. Question three in Part IV of the survey instrument was based on the constructs of self-efficacy beliefs and the challenges to collaboration which include knowledge of collaborative theories, practical experience, administrative support, support from regular education colleagues, and opportunities to collaborate with regular education colleagues.

Part V of the survey sought speech-language therapists to participate in a phone interview in order to obtain more in-depth information regarding their self-efficacy beliefs with regard to collaborative skills and training to work collaboratively with regular education classroom teachers. Table 1 summarizes the focus of each survey section.

Interview Instrument

A five-part interview instrument (see Appendix D) gathered in-depth information from speech-language therapists who chose to participate in the telephone interview. All questions asked in Part I, II and III of the interview instrument were reflective of the questions in the survey instrument.

Validity and Trustworthiness of the Study

It is important to determine if the results of this study are consistent with the data collected. To ensure that the results were dependable the researcher used respondent validation (Bryman, 1988) referred to as member checks by Lincoln and Guba (1995) and Stake (1995); triangulation (Fielding & Fielding, 1986) of multiple sources of evidences which included survey data, recorded interviews and a researcher journal to create an audit trail (Guba and Lincoln, 1981; Dey, 1993) which is an explanation of how the data was collected and how decisions were made throughout the inquiry. This study yielded a

high survey return rate of 66.1%. The interview sample was representative of the survey sample. Also, validity was established by the pilot study conducted on the survey and interview instruments.

Pilot Study of Survey and Interview Instruments

After an extensive review of the literature relating to self-efficacy beliefs and collaboration, survey and an interview instrument designed to reveal the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers were developed by the researcher. Characteristics and descriptors that emerged from the work of many noted researchers (see Appendix E and F) provided the foundation for the survey and interview questions. Therefore, the survey was piloted to establish clarity and content validity through a series of validation procedures. Three supervisors of special education for speech-language support programs were asked to review each question in the survey instrument for relevance and clarity. In order to be a reviewer, each individual was required to have served as a supervisor of special education for a minimum of five years. This criterion was consistent with the criteria used for veteran teachers participating in a pilot study. Mosheim (2008) defined veteran teachers as teachers having at least five years of experience.

The participants of the pilot study determined if each question of the study was relevant and unambiguous, thus rendering the question acceptable or unacceptable. In order for a question to advance to the next phase of the validation test, two of the three supervisors determined whether or not the question was acceptable. If a question was deemed unacceptable by two or more of the supervisors, the question was removed and/or rewritten and the process was repeated.

Next, three experienced speech-language therapists, practicing in schools, evaluated the questions using the same review procedure as the supervisors. Each speech-language therapist was required to have served in the position as a speech-language therapist for a minimum of five years. Veteran teachers are defined as having at least five years of experience (Mosheim, 2008). The same standards used with the supervisors applied to the speech-language therapists. In order for a question to advance for final validation, two of the three speech-language therapists determined whether or not the question was acceptable. If a question was deemed unacceptable by two or more of the speech-language therapists, the question was removed and/or rewritten. Rewritten questions were validated by the supervisors prior to advancing back to the speech-language therapists' review phase.

The same pilot process used to clarify and validate the questions in the survey instrument also was used to clarify and validate questions in the interview instrument. The pilot process for the survey and interview instrument took three weeks. All three supervisor of special education for speech and language support programs and all three speech-language therapists, practicing in schools, found each question in the survey instrument and interview instrument to be acceptable. All individuals who participated in the pilot process were asked not to participate in the study.

Table 1

Survey Sections and Content

Survey Sections	Survey Content
Part I	Demographics: Type of position, years as a speech-language therapist, years of experience as a speech-language therapist, employment setting, years at current work site, licenses and certification held
Part II	Education: Highest degree held in speech-language pathology, year degree confirmed, number of courses taken entirely or partially on collaboration at the undergraduate and graduate level.
Part III	Continuing Education: Courses/workshops/trainings/lectures attended, reasons for attending continuing education activities, activities that were most beneficial, reasons for providing or not providing therapy/instruction in collaboration with a regular education classroom teacher.
Part IV	Perceived Skill and Knowledge: Beliefs regarding knowledge and skills of collaboration
Part V	Willingness to participate in an interview

Procedures

Data Collection

Dillman, Clark, and Sinclair (1995) suggested that multiple contacts with survey participants resulted in increased response rates. The work of Dillman (2000) also suggested that multiple contacts with survey participants resulted in increased response rates to Web surveys, with a prenotice contact having the strongest impact on response rate. After obtaining East Stroudsburg University's Institutional Review Board (IRB) approval regarding informed consent for human subjects a pre-contact letter followed by a cover letter was sent to the survey population (see Appendix A). An advance surface mail contact letter explaining the purpose of the study and encouraging individuals to participate in the survey was sent to PSHA members, who identified their work environment as schools, prior to any electronic communication being sent to the

participants. One week after the advance surface mail notification was sent, a cover letter outlining the study (see Appendix B) and encouraging the recipient to participate in the survey was sent electronically directly to the speech-language therapists. The cover letter contained a hyperlink allowing participants to directly access the electronic Zoomerang survey.

Surveys

Respondents were given one week to complete the web survey. They returned the surveys to the researcher electronically. With traditional survey methods multiple contacts improve response rates. Similarly, web-based survey response rates also increase with follow-up e-mail contacts (Kittleson, 1995; Smith & Leigh, 1997; Mehta & Sivadas, 1995; Isaac & Michael, 1990). The researcher sent follow-up emails at one week and two weeks after the initial sending of the web-based survey encouraging potential survey respondents to complete the electronic Zoomerang survey, if they have not already done so. Dillman (1978) recommended mail follow-up surveys should be sent at one, three, and seven weeks from the initial mailing date. Anderson and Gansneder (1995) believe that because of the much faster delivery speed of email, researchers should send a follow-up e-mail one week earlier than recommended for traditional mail surveys. A follow-up e-mail should be sent to survey respondents after one week. A second follow-up e-mail should follow after two weeks. No additional follow-up emails were sent by the researcher. Third or fourth follow-up e-mails have little effect according to Kittleson (1997) who noted that the second follow-up e-mail doubled the response rate but the third or fourth e-mails had only marginal effects on survey return rates. The process for data collection is presented in Table 2.

Table 2

Data Collection – Flow Chart

Week 1	Advance surface mail notification sent to speech-language therapists whose work setting is "a school or school district" as identified in the 2008 PSHA Directory.
Week 2	Cover letter with link to the electronic Zoomerang survey sent to speech-language therapists.
Week 3	Speech-language therapists return survey to the researcher, electronically.
Week 4	Follow-up email sent to speech-language therapists encouraging them to complete the electronic Zoomerang survey, if they have not aleady done so.
Week 5	Second follow-up email sent to speech-language therapists encouraging them to completethe electronic Zoomerang survey, if they have not already done so.

Interviews

When individuals responded to the Zoomerang survey they indicated if they wanted to participate in an interview. If they chose to participate, the individual then completed the contact information section (see Appendix D). The researcher contacted the volunteer self-identified survey respondent by phone to thank the individual for his/her interest in participating in the interview and established a convenient time to conduct the interview.

The interviews were used to confirm aggregated input provided in the surveys and to gather in-depth information related to the survey questions. The adequacy of the exact number of interviews conducted was judged by the researcher based on the saturation of information obtained in each interview (Patton, 1990). Finding no surprising or atypical

responses, no new information and much informational redundancy (Lincoln & Guba, 1985), feeling comfortable that the theoretical categories have been saturated (Strauss & Corbin, 1990) and recognizing that there was sufficient information to create an intended product, the researcher conducted 11 phone interviews. A sample size of 10 is considered adequate for certain kinds of homogeneous sampling (Sandelowski, 1995).

Data Analysis

The purpose of the survey was to gather information regarding the self-efficacy beliefs of speech-language therapists' regarding their skills in collaboration to work with regular education teachers. The purpose of the individual interview was to gather in-depth information to augment the responses on the survey.

Data Analysis of Surveys

Descriptive statistics (Leedy & Ormrod, 2001) were obtained from the Zoomerang survey to determine the actual number of individuals who participated, demographic information about the survey participants, and data supporting how individuals responded to the various questions asked. Overall response rate was 66.1%, with the researcher receiving 164 of the 258 individuals that received and accessed the web-based survey.

Using a five-point Likert-type scale (Likert, 1932; Maurer & Pierce, 1998; Maurer & Andrews, 2000), survey participants were asked to respond to questions regarding their perceived skills in and knowledge about collaboration along with pre-service and in-service preparation they may have received (see Appendix C). Maurer and Pierce (1998) investigated the effectiveness of a Likert scale measure of self-efficacy for educational purposes. Their finding suggested that the Likert scale measures both

magnitude and confidence. They further concluded, based on reliability, predictive validity, and factor analysis data, that a Likert scale measure of self-efficacy is an acceptable measure. A Likert scale is an ordinal level of measurement. Ordinal scales permit the ranking of items or perceptions. Ordinal measures have no absolute values and the real differences between adjacent ranks may not be equal. Likert scales were used to measure the survey participant's beliefs. Although a five-point Likert scale allows an individual to take a neutral response, a five-point scale provides a greater range than a four-point scale thus creating a standard deviation with greater significance. The Likert-type response options for questions regarding the participants' perceived skill and knowledge in collaboration were strongly agree, agree, uncertain, disagree and strongly disagree.

Data Analysis of Interviews

Case studies involve a detailed description of the setting or individuals, along with analysis of the data for themes or issues (Stake, 1995; Wolcott, 1994). Merriam (1988) and Marshall and Rossman (1989) argue that data collection and data analysis must occur simultaneously in qualitative research. Rossman and Rallis (1998) contend that qualitative data analysis entails gathering data, analyzing data, representing the data, and making an interpretation of the larger meaning of the data. Throughout the data analysis process, researchers code their data using categories (Jacob, 1988). Electronically recorded interviews were transcribed**.** During the data analysis process, the data was organized into categories and repeatedly reviewed and coded. Ideas that surfaced were recorded as suggested by Merriam (1988). Field notes were regularly reviewed to reveal the information, patterns and themes that emerged and their

underlying meaning. Table 3 portrays the data analysis process for information gathered through interviews.

Table 3

Data Analysis of Interviews

Step 1 *Gathered, organized and prepared* the data for analysis. All interviews were transcribed, field notes were typed.
Step 2 All data was read and re-read to obtain a *general sense* of the information and to reflect on its overall meaning. Notes were made, thoughts were recorded about the data and sorted and arranged by emerging themes.
Step 3 Began detailed analysis with a coding process. *Coding* is the process of organizaing the material into "chunks" before assigning meaning to those "chunks" of information (Rossman & Rallis, 1998, p. 171). Detailed guidance for the coding process set forth by Tesch (1990, pp. 142-145) was used to guide the coding process: a. Data was reviewed again. Topics were coded into categories. b. Data was assembled into categories and analysis continued. c. New categories were identified as appropriate as the analysis ensued.
Step 4 Narrative passages were used to report the findings of the analysis. These narratives detailed the themes, multiple perspectives from individuals, and quotations from the participants.
Step 5 Making an interpretation or meaning of the data. "What were the lessons learned" captures the essence of this idea (Lincoln & Guba, 1985).

During the data collection and analysis two strategies established credibility and trustworthiness: (a) respondent validation (Bryman, 1988) referred to as member checks by Lincoln and Guba (1985) and Stake (1995) involving verbal feedback from the participants within and at the conclusion of each interview and (b) triangulation of multiple sources of evidences which included survey data, recorded interviews and a researcher journal to create an audit trail.

When not being used for analysis the completed surveys, interviews and analysis of the surveys and interviews were kept in a locked filing cabinet. All participants remained anonymous. The names of all participants were deleted from documents and replaced by numeric codes. All identifying information such as years of service, school settings, type of employment, etc. were deleted, disguised, or reported in the aggregate to protect the confidentiality of the participant. The researcher was the only person with access to the identities of the research participants. All data collected will remain in locked files in the researcher's home for a minimum of three years to comply with federal regulations.

Assumptions and Limitations of the Study

Limitations exist with the design of this study and must be considered with interpreting and placing value on the results obtained.

Participants and Research Topic

This was the researcher's initial investigation into understanding the self-efficacy beliefs of speech-language therapists regarding their skills in collaboration to work with regular education classroom teachers and to understand what additional preparation, if any, speech-language therapists believe they need in collaboration to work with regular education teachers. As a result of this being an initial investigation, this study was restricted to speech-language therapists working in Pennsylvania. If this study was conducted with speech-language therapists across the United States the results may be different. Also, the researcher only had access to speech-language therapists who were members of the Pennsylvania Speech-Language-Hearing Association (PSHA) working in schools with published email addresses listed in the PSHA directory (n-343). All of the

email addresses were not current and did not reach the intended recipients or the intended recipient was not currently working in the schools in Pennsylvania. Although the researcher did not know exactly how many speech-language therapists working in schools in Pennsylvania were not current members of PSHA at the time the study was conducted, what was known from the personal knowledge of the researcher's staff and the staff under the direction from colleagues of the researcher was all of the speech-language therapists that were working in schools at the time of this study were not members of PSHA; thus all speech-language therapists working in schools in Pennsylvania were not able to be included in this study. This may have impacted the results of this study. As there may be a difference in the type and amount of in-service preparation in collaboration and/or self-efficacy beliefs of individuals who choose to get involved in their professional organizations compared to individuals who do not choose to get involved in their professional organizations. However the bias that may exist in the data that the survey yielded was minimized by the high survey return rate of 66.1% (164 of 258).

One survey participant from north-west Pennsylvania expressed interest in being interviewed however this individual did not respond to any of the contacts made by the researcher to participate in the interview. As a result, information from interview respondents from all geographical areas of Pennsylvania was not represented in this study. It cannot be assumed that individuals from all geographical areas of Pennsylvania would respond the same way.

While many factors affect the self-efficacy beliefs of teachers regarding their abilities in collaboration, this study focused on speech-language therapists' self-efficacy

beliefs about classroom collaboration with regular education classroom teachers**.** All survey respondents were self-volunteered and all interview participants were self-volunteered and self-identified. Thus, it cannot be ignored that only speech-language therapists with an interest in collaboration may have responded to the survey and self-volunteered to participate in the interview. As previously stated there may be a correlation between individuals with high self-efficacy, individuals who sought out professional development and individuals who chose to participant in the survey and who chose to be interviewed. Speech-language therapists without a true interest in collaboration may have opted not to respond. For example, speech-language therapists who chose not to respond may have had no pre-service or in-service training and/or experience in collaboration. As a result these speech-language therapists may have weaker self-efficacy beliefs regarding their ability to collaborate with regular education teachers. However these potential correlations were not explored in this study.

Cook and Campbell (1979) have pointed out that subjects (a) tend to report what they believe the researcher expects to see, or (b) report what reflects positively on their own abilities, knowledge, beliefs, or opinions. The nature of the questions in this study required the respondents and participants to recall courses taken during undergraduate and graduate programs; the number of courses they had taken, entirely or partially, on collaboration; and in the courses that addressed collaboration as a course component and approximately how much time was spent discussing the topic of collaboration. Concerns about such data centers on whether the respondents and the participants were able to accurately recall this information. Human memory is fallible (Schacter, 1999) and thus

the reliability of self-reported data can be tenuous. Another concern about such data centers on whether subjects are able to accurately recall past behaviors. .

Researcher Bias and Reactivity

The researcher brings 26 years of experience as a speech-language therapist and a special education supervisor to this study. Experience as a speech-language therapist and special education supervisor enhances the researcher's awareness, knowledge and sensitivity to the role of professional preparation and challenges faced by speech-language therapists. However, due to these experiences, certain biases may occur in a study. While professional and intellectual curiosity is one reason a researcher may choose to investigate a particular topic, personal beliefs can influence the choice of a research topic. The selection of data that fit the researcher's existing theory or preconceptions and the selection of data that "stand out" to the researcher (Miles & Huberman, 1994, p. 263; Shweder, 1980) can threaten the validity of qualitative conclusion. Therefore, to ensure the integrity of the study and the validity of the researcher's account, the researcher used field notes, the interviewee's responses, and respondent validation or member checking. Being cognizant of the possibility of biases, the researcher used member checking to help guard against any biases or expectations the researcher may have. This was accomplished by capturing what the respondents said and then soliciting verbal feedback from the interviewees about the data collected and conclusions made during the interviews.

Reactivity

Eliminating the influence of "reactivity," the effect of the researcher on the individuals in the study (Maxwell, 2005), is difficult because the data analysis and what the interviewee says is influenced by the interviewer and the interview situation

(Hammersley & Atkinson, 1995). Therefore, the researcher asked questions during the interview in order to clarify and ensure accurate collection and reporting of the interviewees' responses.

Summary

The mixed-method case study as defined and outlined in this chapter enabled the researcher to gather significant data to be reviewed and analyzed. The question of internal validity or the extent to which research findings were congruent with reality, was addressed by using respondent validation (Bryman, 1988) referred to as member checks by Lincoln and Guba (1995) and Stake (1995); triangulation (Fielding & Fielding, 1986) of multiple sources of evidences which included survey data, and recorded interviews. Reliability, the extent to which there was consistency in the findings, was enhanced by the researcher explaining the assumptions, by triangulating data (Fielding & Fielding, 1986) and by leaving an audit trail (Guba and Lincoln, 1981; Dey, 1993) that is by describing in detail how the study was conducted and how the findings were derived from the data. Chapter four will provide the findings of the methodologies performed in this study based on the themes and categories that were generated.

CHAPTER IV

FINDINGS

Introduction

Using a mixed method case study approach and using a sample of speech-language therapists working in schools in Pennsylvania, this study investigated the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education classroom teachers. Demographic information, information on pre-service and in-service training along with the perceptions of speech-language therapists who participated in the study in reference to any training received along with their beliefs regarding knowledge and skills of collaboration have been obtained through an electronic Zoomerang survey (see Appendix C). A total of 164 surveys were completed and returned, for an overall return rate of 66.1%.

Eleven of the speech-language therapists from different parts of Pennsylvania self-volunteered to participate in a semi-structured interview (see appendix D). Speech-language therapists; working in schools; from Northeast (N = 3), Southeast (N = 3), Central (N = 3) and Southwest (N=2) Pennsylvania were interviewed. One survey participant from north-west Pennsylvania expressed interest in being interviewed however this individual did not respond to any of the contacts made by the researcher to participate in the interview**.** The audio recorded and transcribed interviews revealed information not accessible through the survey such as beliefs, perceptions, attitudes and values. Field notes were regularly reviewed for patterns and themes that were emerging, and their underlying meaning. Interview data was organized into chunks of information,

sorted, repeatedly reviewed, arranged into categories and coded into themes or units of meaning.

The chunks of information from the survey and interview were collapsed into 10 categories related to self-efficacy and eight categories related to collaboration. Categories initially generated were: perceived capabilities of self, belief in one's skills, social comparison and models, personal accomplishments, social skills, assertiveness, school climate related to classroom practices and teachers' collegiality, different levels of training and professional development, teacher self-efficacy beliefs that affect interaction with students and other professionals. These 10 categories became four themes related to teacher self-efficacy toward their skills to collaborate with regular education classroom teachers. The themes were (a) perceived self-efficacy; (b) sources of self-efficacy development; (c) influences of self-efficacy beliefs; and (d) development of teacher self-efficacy beliefs. The data was used to address the research questions posed in the study by the researcher (see Table 4).

Table 4

Categories and Themes Related to Self-efficacy Beliefs of Speech-Language Therapists Regarding their Skills to Collaborate with Regular Education Classroom Teachers

Categories Related Self-Efficacy Beliefs	**Themes Related to Self-Efficacy Beliefs**
Perceived capabilities of self/beliefs in one's skills	Perceived Self-Efficacy
Belief in one's academic capabilities as a result of course work and filed experience	
Vicarious experiences/social comparison and models	Sources of Self-Efficacy Development
Strong predictors of personal accomplishments	Influences of Self-Efficacy Beliefs
Linked to social skills	
Linked to assertiveness	
School climate related positively and negatively to classroom practices and teachers' collegiality	Development of Teachers Self-Efficacy Beliefs
Teaching efficacy influenced by different levels of professional development	
Professional development opportunities	
Teacher efficacy beliefs affect interaction with other professionals	

The chunks of information were also collapsed into eight categories related to skills of collaboration. Categories generated were openness to new ideas, support from supervisors, shared planning time, increased professional knowledge base, shared space, jointly shared success and failures of student learning, goals developed and agreed upon by the teacher and the speech-language therapist and the recognition of the contribution of others. These seven categories became six themes related to skills of collaboration. The themes were (a) flexibility; (b) administrative support; (c) shared resources; (d) shared accountability for outcomes; (e) mutual and shared goals; and (f) parity (see Table 5).

Table 5

Categories and Themes of Collaboration Speech-Language Therapists Feel they Need Regarding Working with Regular Education Classroom Teachers

Categories Related Skills of Collaboration	Themes Related to Skills of Collaboration
Openness to new ideas	Flexibility
Support from immediate supervisors and principals	Administrative Support
Shared planning time	Shared Resources
Increased professional knowledge base	
Shared space	
Jointly share success and failures of student learning	Shared Accountability for Outcomes
Goals developed and agreed upon by the teacher and the speech-language therapist	Mutual and Shared Goals
Recognizes contributions of others	Parity

This chapter will examine the information obtained through the survey and interview data. Each research question and the analyses addressing it are presented below.

Research Questions and Findings

Research Question #1: What are the Self-efficacy Beliefs of Speech-Language Therapists Regarding their Skills to Collaborate with Regular Education Classroom Teachers?

The information that emerged from the164 surveys and 11 interviews revealed that the speech-language therapists in the study held strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers.

Perceived Self-Efficacy Beliefs

Survey results revealed that 95.7% (157 of 164) of the survey respondents believe they possess a high level of confidence in their abilities as speech-language therapists and

89.6% (147 of 164) reported feeling competent to collaborate. Interview participants 9 and 11 felt respected by the regular education classroom teachers. Both participants reported having 26 years of experience and confidence in their skills as a speech-language therapist to collaborate with regular education classroom teachers. Participant 11 stated, "I have laid a lot of ground work in my field. I have come to understand the classroom teacher's job better and they have come to understand my job better and really work together as equals." Recognizing the contributions of all team members (Star & Lacey, 1996; Rainforth, York & Macdonald, 1992), building mutual respect for all team members (Star & Lacey, 1996) and parity (Friend & Cook 2003; Ryndak & Alper, 1996) are important for collaboration. Participants 11, 3, 7, 2 all described how gaining increased professional knowledge about the regular education curriculum and language demands of the classroom have resulted in them have strong, positive beliefs regarding their skills to collaborate with regular education classroom teachers. Interview participant 7 stated, "When I graduated from college I knew nothing about the regular education curriculum. I have since learned a lot about the curriculum, what students need to know and be able to do to be successful and I feel very confident going into the classroom and working with the regular education teacher." Participant 3 echoed their comments saying, "I have been a speech-language therapist for 15 years. I understand the math and reading curriculum, the language being used and the vocabulary that is expected of the children and because of this I feel confident about working with the teacher and meeting the needs of the students."

However participant 8 reported having three years of experience as a speech-language therapist but only being at the current work site and working in a collaborative

model for 1 year. This individual did not report positive or negative self-efficacy beliefs regarding skills to collaborate with regular education classroom teachers.

Sources of Self-Efficacy Development

The work of Schunk (1981, 1983, 1989) and Bandura (1986) found that social comparison and models are a significant and important source in the development of self-efficacy beliefs and flexibility is a critical component of collaboration (Roller, Rodriques, Warner & Lindahl, 1992). Participant 8 stated, "The model that is set up in our building consists of a lot of discussing and collaboration with the regular education teachers. These teachers are excellent, they really welcome new ideas. They are willing to try new things and they are not afraid to break out of what they have been doing in the past. Working with them has made me a better therapist and it is excellent for the students."

Influence of Self-Efficacy Beliefs

Another theme that emerged from the data was the influence of self-efficacy beliefs. Self-efficacy beliefs influence an individuals' self-regulation, motivation and the choices they make (Pajares, 1997; Herman, Meece, & McCombs, 2000). This construct has been linked to choices people make, personal accomplishments (Bandura, 1983, 1986), teaching behaviors (Pajares, 1996), social skills (Moe & Ziess, 1982) and assertiveness (Lee, 1983, 1984). Most of the survey respondents and the interview participants were "accomplished." When asked the highest degree they held in speech-language pathology 89.6% (147 of 164) of the survey respondents and 90.9% (10 of 11) of the interview participants disclosed having a Master's degree. The 11th interview participant held a Master's degree in special education. When asked what licenses and/or certifications were held, 61.5% (101 of 164) of the survey respondents and 90.9% (10 of

11) interview participants revealed having a Pennsylvania license as a speech-language therapist and ASHA Certificate of Clinical Competency in speech-language pathology. Participant 5 and 8 believed their ability to collaborate with regular education teachers was the result of being able to openly and honestly communicate about students and instructional strategies that were working and those that were not working, their openness and willingness to try new and different things and being clear about roles and holding each other accountable from everything to adapting materials, carrying out instruction to monitoring student outcomes. Participant 5 reported,

> The teacher and I have complete respect for one another. When we collaborate it is a true partnership. When students aren't being successful, we brainstorm together. We both remain open and willing to try new things. We both deliver instruction and monitor student progress. The really great thing is we have a lot of support from the principal. Without all of this, collaboration wouldn't be successful.

Likewise, when these same themes of collaboration were not in place, interview participants expressed feelings of defeat. Participant 11 recalled, "I once had a principal who did not believe in collaboration. We weren't given time to co-plan. This made it very difficult to know what the students were working on and needed in the classroom. Many of the teachers in that building were not open minded and were not very flexible with me. Some were not willing to let me see their student at certain times. I just never completely felt good about what I was doing when I worked in that building."

Results from the survey indicate 71.3% (117 of 164) of the respondents engage in continuing education activities on collaboration because they are personally or

professional interested in collaborating. Also, 63.4% (104 of 164) of the survey respondents reported they provided therapy/instruction in collaboration with a regular education classroom teacher as part of their past or current employment situation because they and the classroom teacher choose to do so.

The interview participants responded in a like manner to the survey respondents. Participant 5 detailed the importance of communication.

> Everyone is very busy and the demands on teachers and educators are increasing every year. We have an IST team and I am a really big part of that. We have meetings to up-date each other. This happens on a monthly basis and there is constant emailing back and forth. I give every teacher that I work with a copy of the IEP goal pages and quarterly progress monitoring up-dates. They all know what the student in their class is working on. Then what they do with the information is up to their discretion. I have kids that are close to dismissal and I talk to the teachers about what they should expect within the classroom setting or their reading group with their sounds. We have such a great rapport that the teachers are coming to me to say what they did or what the student is struggling with and I am going to them and we still have the formalized meetings.

Participant 6 added, "I spend a lot of time educating the regular education teacher. A lot of it is to discuss specially designed instruction, talk about how students are doing in the classroom compared to the therapy room. I have a scheduler for anyone who wants to talk with me about something." Participant 9 acknowledged being the individual who advocates working in collaboration with the regular education teachers in the building. This individual recounted,

> I am constantly emailing my principal reminding him the speech-language therapists and the regular education teachers need time to meet, attend trainings together, plan lessons, share ideas – not just on how we can better meet the needs of students on our caseload but also the needs of students with developmental delays that wouldn't necessarily qualify for speech-language therapy.

Participant 3 stated, "I don't like working as a separate entity. There is only so much you can do with a student in speech-language therapy. I need to focus very specifically on what is going to make students more successful in their classroom. In order to do that you need to know what is going on in their classroom and what their teacher is expecting of them. I am interested in collaboration so I can make my therapy valuable to the students."

Development of Teacher Self-Efficacy Beliefs

The development of teacher self-efficacy beliefs was the fourth and final theme to be identified in this study. The development of teacher self-efficacy beliefs are affected by school climate which is related positively and negatively to classroom practices and teachers' collegiality (Moore & Esselman, 1992). The development of teacher self-efficacy beliefs also affects interaction with students and other professionals (Smylie, 1988; Tschannen-Moran, Woolfolk-Hoy & Hoy, 1998). Table 6 reveals the results of information gathered through the survey questions that were designed to investigate the perceived skills and knowledge of speech-language therapists regarding collaboration. The results in Table 6 are presented from the highest to the lowest percentage of respondents that strongly agree or agree the survey questions.

Table 6

Data Results of Survey Questions – Perceived Skills and Knowledge Regarding Collaboration

Survey Statement	Percentage of Respondents that Strongly Agree or Agree
Collaboration requires shared responsibility for participation and decision making.	98.7%(162 of 164)
Collaborative teams need blocks of scheduled time for co-planning.	98.1% (161 of 164)
Collaborative teams need opportunities to define roles and responsibilities.	98.1% (161 of 164)
Collaboration requires mutual goals between participants who collaborate.	96.9% (158 of 164)
Collaboration requires shared resources, such as time, expertise, space, instructional materials, information, and special techniques among participants who collaborate.	96.9% (159 of 164)
Collaboration requires individuals to share accountability for outcomes of their decisions.	93.2% (153 of 164)
Teachers need structured opportunities to learn how to collaborate.	91.4% (150 of 164)
Collaboration requires equality among participants who collaborate.	83.5% (137 of 164)
Administrators and collaborative teams must meet on a regular basis.	79.2% (130 of 164)

Scheduled time to collaborate, jointly shared success and failures of student learning, shared resources, administrative support, and flexibility were cited by the individuals that were interviewed as things that supported collaboration with regular education colleagues. This finding corroborates Prelock, Miller and Reed (1995), who cited administrative support, collaborative in-service training, collaborative planning and implementation of lessons, and teams sharing the responsibility for making decisions in the delivery of services to children as key components for establishing collaborative partnerships in providing services to children with communication disorders. In 1997, Vaughn, Schumm, and Anguelles added that effective collaborative practices should

include shared ownership of the students and their academic progress, space, communication, classroom management and planning time. According to the framework of collaboration established by Friend and Cook (2003, 1992) collaborative teachers share mutual goals, resources, responsibility and have shared accountability.

When interview participants were asked to describe the nature of their interactions with regular education teachers all of them reported that they try to establish regular time to plan together. During co-planning time they discussed student needs, instructional strategies that were and were not resulting in student achievement, and how they could better support the teacher to help the student. Interview participant 4 stated, "We are given common time for team planning. The teachers are expected to be accountable for the students as are the therapists." Interview participant 7 recounted working in a building where the entire staff was trained in collaboration. This individual stated, "There was ownership on the part of everyone in the building. We all knew what was expected of us, we all had common expectations for the students, everyone was open-minded and we supported each other. I think that full building training was amazing. I still see teachers that were trained years ago and they still approach what they do in a collaborative manner." Interview participant 2 reported, "We are given time to go to conferences and teleconferences which has really added to everyone's knowledge base and that helps when you are collaborating. The team supports collaboration. The regular education teacher, reading specialists, IST teams share what we learn at conferences and we make materials." Interview participant 9 reported, "At my school we all have such a wealth of knowledge and we share it with each other. It is not like we know-it-all; we just give our input to help each other to help the child. We are all part of the team. I am really focusing

on the phonemic awareness component of the class when I am in the class co-teaching. So this year we will see how the collaboration went." Interview participant 6 remarked, "I spend a lot of time discussing specially designed instruction, showing the teachers what strategies can be used to increase student productions and language skills." Interview participant 10 added, "We discuss if the student is having difficulty or if we are not seeing progress; then we will discuss ways we can address them together." Interview participant 11 stated, "My principal encourages and supports us. He gives us time to collaborate. He's not only supportive of that but he encourages it. Collaboration at my school is also successful because the teachers I am collaborating with are very open minded and very flexible in working with me." Interview participant 8 added, "It seems to take people who are willing to try new things and not be afraid to break out of what they have been comfortable doing for years."

Research Question #2. What Additional Preparation, if any, Do Speech-Language Therapists Believe they Need in Collaboration to Work with Regular Education Teachers?

In addition to school climate and interactions with students and other professionals, Ross (1994) and Henson (2001) found that teaching self-efficacy appeared to be influenced by different levels of preparation and professional development. The survey respondents and interview participants had very limited exposure to undergraduate and graduate course work at the pre-service level that addressed collaboration (see Table 7). Although many of the speech-language therapists in the study did not take courses on collaboration and none of the interview participants took courses on collaboration; 93.9% (154 of 164) of the survey respondents and 100% (11 of 11) of the interview participants

participated in workshops, staff trainings and/or lectures on collaboration as part of in-service training since beginning their employment in the schools (see Table 8).

Table 7

Number of Courses Taken Entirely or Partially on Collaboration at the Undergraduate and Graduate Level for Survey Respondents and Interview Participants While Enrolled in Under-Graduate and Graduate Programs for Speech-Language Therapy.

Course Work/Number of Courses/ and Amount of Time Spent Discussing Collaboration	**Survey Respondents**		**Interview Participants**	
	Under-Graduate	**Graduate**	**Under-Graduate**	**Graduate**
No courses taken **on collaboration**	84.8% (140 of 164)	82.9% (129 of 164)	0% (0 of 11)	0% (0 of 11)
1 course taken **on collaboration**	9.1% (15 of 164)	12.8% (21 of 164)		
No courses taken that addressed **collaboration as a course component**	53.0% (87 of 164)	41.4% (68 of 164)		0% (0 of 11)
1 course taken that addressed **collaboration as a course component**	31.7% (52 of 164)	31.7 (51 of 164)%	9.0% (1 of 11)	
1 week or less spent on **discussing collaboration**	78.6% (129 of 164)	75.0% 123 of 164)	9.0% (1 of 11)	0% (0 of 11)
2 weeks spent on **discussing collaboration**	10.9% (18 of 164)	13.4% (22 of 164)		

Table 8

Courses Taken on Collaboration at a College or University After Receiving Highest Degree and Percentage of Individuals who Participated in Workshops, Staff Trainings, Trainings from Colleagues and Professional Journal Readings

	Survey Respondents	**Interview Participants**
Graduate Course Work on Collaboration		
0 Courses	64.0% (105 of 164)	0% (0 of 11)
1 Course	14.6% (24 of 164)	0% (0 of 11)
2 Courses	4.3% (7 of 164)	0% (0 of 11)
3 + Courses	17.0% (28 of 164)	0% (0 of 11)
Participated in workshops, conferences, staff trainings, trainings from colleagues, and/or in professional journal readings since obtaining highest degree	93.9% (154 of 164)	100% (11 of 11)

The number of survey respondents who reported course work and opportunities for practical experiences on collaboration should be a part of pre-service education was 97.5% (160 of 164). Interview participant 2 told the researcher, “Collaboration is so important and many speech-language therapists coming out of school with their Master’s degree don’t have this piece at all. It is important we are educated in collaboration. I wasn’t in undergrad school and I wish I would have been.” Despite the speech-language therapists in the study reporting strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers 76.2% of the survey respondents (125 of 164) indicated they could benefit from additional coursework in the area of collaboration (see Table 9).

Table 9

Number of Survey Respondents that Feel they Could Benefit from Additional Coursework in the Area of Collaboration

	Survey Respondents (N = 164)
Strongly Agree	22.5% (37 of 164)
Agree	53.6% (88 of 164)
Uncertain	15.8% (26 of 164)
Disagree	6.7% (11 of 164)
Strongly Disagree	1.2% (2 of 164)

It also needs to be noted only 61.5% (101 of 164) of survey respondents reported being knowledgeable regarding the types of co-teaching, (e.g., one teach-one support, station teaching, parallel teaching, alternative teaching, and team teaching). Neither a high degree of pre-service or in-service education was evident nor a unified approach to training in collaboration emerged from the data. This may, in part, explain the lower percentage of survey respondents feeling knowledgeable regarding the types of collaboration and the confusion some of the interview participants had regarding what collaboration is and is not. Interview participant 10 recounted,

> I get to know my students better by collaborating with my colleagues. I believe all speech-language therapists should receive training in collaboration because through collaborating you learn what and how to incorporate all of the skills students need into lessons and I think children get a better overall education that way. I think it makes you a better therapist and I am a stronger professional because of it.

Participant 6 indicated collaboration was briefly mentioned in an undergraduate methods and materials class. This individual reported that less than a week was spent discussing collaboration, stating, “I don’t feel enough time was spent discussing collaboration. I know we left understanding that collaboration was important, but beyond that I don’t recall much. I would have liked more information on the importance of collaboration and more real world examples.” Participant 11 stated, “Although I did not have a course on collaboration, we talked about the fact that speech-language therapists should collaborate and we talked about an activity that could be done but it was nothing in-depth. I really wish there was a lot more education about collaboration.” Participant 8 described spending approximately four hours of a counseling class for speech-language therapists discussing collaboration. This individual stated, “Now that I’m out in the field I feel like I would have liked to have spent more time discussing collaboration.” Participant 4 added, “I had a counseling course for stuttering and approximately one-third of the class time was spent discussing collaboration, however I do not feel enough time was spent discussing collaboration.” Participant 2 remarked, “I received my master’s degree in special education. Collaboration was part of the philosophy of the program. I gained so much in understanding what collaboration is and how important it is. I learned we as speech-language pathologists need to incorporate what we do into the curriculum, the standards, the PSSAs and the regular education classroom and how we can’t be separate entities at all.”

When speech-language therapists in the study were asked what they perceived to be the most beneficial form of continuing education or in-service education to learn about, and to develop knowledge and skills of collaboration, they reported attending in-

service sessions or conferences to be the most beneficial form for acquiring this information. These findings corroborated the research of Elksnin and Capilouto (1994). Of the 164 survey respondents, 70.1% (115 of 164) and 100% (11 of 11) interview participants indicated they preferred workshops/trainings and/or lectures over course work to learn about and develop their knowledge and skills of collaboration. All 11 interview participants recounted time set aside solely for collaboration, time to go to conferences, time to share knowledge gained at conferences, teacher flexibility and administrative support to collaborate had the greatest impact on their skills and ability to collaborate. Participant 10 summed up the comments from all of the interview participants when stating,

> The more time I have to share ideas with the teachers, co-plan to make lessons stronger, having colleagues open to new ideas and suggestions and support to do this really makes a difference. I learn so much from discussing things with the teacher and the occupational therapist. The one thing that is really cool is when a student learns something in one environment and then they carry it out in another environment. When these things happen I feel good about myself and that I did a good job.

Challenges of Collaboration

The phrase, time is of the essence, expresses the primary theme of the interview participants when they were asked about challenges they may have experienced when working collaboratively with regular education teachers. The individual speech-language therapists were asked about experiences they had that have supported and hindered collaboration with regular education classroom teachers. Studies conducted by Cook and

Friend (1991); Idol and West (1991); and Redditt (1991) identified "time" as a primary barrier to collaboration. Roller, Rodriques, Warner and Lindahl (1992) pointed out the success of a collaborative team depends on teacher flexibility in designing programs to meet individual student needs and openness to new ideas.

All of the speech-language therapists interviewed reported lack of time as a barrier to collaboration. Nine of the interview participants reported challenges with scheduling, working with individuals that did not understand collaboration and inflexible colleagues as the things that have hindered their efforts to collaborate. Interview participant 8 stated, "Some people want you there at a certain time on a certain day. This lack of flexibility makes it very difficult to schedule time to collaborate." Participant 4 added, 'What has hindered me has been time. I always felt stretched, people always wanted me. To go in different directions all the time, how can you collaborate that way?" Participant 2 reported, "Time, time, time has hindered collaboration. Personalities can also really hinder collaboration but if we had time during the week that was set aside solely for collaboration, what a difference that would make. When things don't come together you feel ineffective and like you are not making a difference for the students." Participant 7, 1 and 9 all reported working with difficult personalities and teachers who lacked flexibility and appeared to feel threatened by their presence in the classroom as a big hindrance to collaboration. Participant 7 stated, "I believe the teacher thought I was there to watch them and evaluate their performance. When they realized I was there for the students it seemed to go a lot better." Interview participant 2, 6, 7, 10 and 11 also identified lack of administrative support as a barrier to collaboration. Participant 10 recalled an administrator not supporting collaboration because it was a 'waste of time'

and ‘it could lead to problems with billing for services provided to the students.’ Participant 7 added, “When supervisors and principals don’t understand collaboration they don’t encourage it with classroom teachers. They focus on case load rather than work load and they don’t give you time to collaborate.”

Unexpected Findings

Prior to conducting each interview, the researcher read the definition of collaboration as it was being defined for the purpose of this study: “Collaboration is being defined as individuals contributing their knowledge and skills and participating in shared decision making as they work together and problem solve to accomplish one or more common and mutually agreed upon goals.” In spite of hearing this definition, in response to being asked to elaborate on what has contributed to a successful collaboration experience or an unsuccessful collaboration experience Participant 5 responded,

> The other thing we collaborate on is report writing. If the psychologist is involved and I do my testing, we have a system set up where I do my speech-language input and I just email it to her and we cut and paste. Paperwork is just another area that we collaborate on. It is very important when you collaborate and you are part of a team that you are sensitive to everyone’s timelines. I am very fortunate I have a very good relationship with everyone.

Participant 6 reported,

> I think I am the only person who had developed a website for the school district. I actually have a collaboration section for the website where it has teacher input forms, a lot of resources that help teachers even to determine if the student is in need of services or not. I list strategies they can use for those students who have

> language processing disorders. I developed this collaborative portion of the website to help with that. I have a scheduler for anyone who wants to talk with me about something. I have my screening referrals up there. I have a form that teacher have to fill out for a screening. They click submit and it goes into a spread sheet for me. It has the date they requested the screening and the reason for the referral so I know exactly what I am going into.

This evidence is suggestive that these individuals may believe they are collaborating when in reality they are not.

Conclusion

Although the majority of speech-language therapists graduating from programs designed to prepare them to work as speech-language therapists obtained minimal to no formal course work and hands-on preparation in the area of collaboration, the information gathered through the surveys and interviews suggests that the speech-language therapists who participated in this study hold strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers. This may be explained in part because of the individual who chose to participate in the survey and interview. Many of the survey respondents and all of the interview participants expressed participating in workshops, staff trainings and/or lectures on collaboration since beginning their employment in the schools. Furthermore the speech-language therapists in the study reported attending workshops, in-service sessions or conferences to be the most beneficial forms for acquiring information on collaboration.

Some of the descriptors of collaboration such as parity among team members, mutual and shared goals, shared resources, shared accountability for outcomes, flexibility

and administrative support contributed to speech-language therapists' self-efficacy beliefs regarding their skills to collaborate with regular education teachers. However, when these same descriptors were not evident, speech-language therapists had difficulty collaborating with regular education classroom teachers and they reported feelings of being ineffective and not making a difference for the students.

As the information gathered was continually reviewed, some surprising findings were uncovered. Even though the speech-language therapists in the study reporting strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers 76.2% of the survey participants (125 of 164) indicated they could benefit from additional coursework in the area of collaboration. Overall, 98% of the survey respondents believe course work and opportunities for practical experiences should be a part of pre-service education and all of the individuals interviewed indicated a desire for more pre-service education on collaboration.

Another surprising finding was the lack of understanding regarding what collaboration is/is not.

Chapter V will discuss the findings, conclusions and implications of the information uncovered in this mixed-method case study.

CHAPTER V

FINDINGS, CONCLUSIONS AND IMPLICATIONS

Introduction

Speech-language therapists share a common goal with regular education classroom teachers – to meet the needs of students with speech-language impairments being educated in the regular education classroom. To accomplish this, individuals must share responsibility for student success – an outcome that requires both parties to voluntarily engage in collaborative planning, and shared decision-making as they work toward the common goal.

Research shows that the collaborative model for delivery of service provides the most effective means for the speech-language therapist to deliver services to students in an educational setting. In addition to the importance of implementing procedures based on data driven research, the *Individuals with Disabilities Education Improvement Act of 2004* (IDEA 2004) and inclusion necessitates a more collaborative approach. Inter-professional collaboration is also an expected role and professional responsibility of practicing speech-language therapists (American Speech-Language-Hearing Association, 1991a).

The purpose of this mixed-method case study was to investigate the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers and to investigate what additional preparation, if any, do speech-language therapists believe they need in collaboration to work with regular education teachers.

As this was the researcher's initial investigation into understanding the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers and gaining understanding regarding what additional preparation, if any, speech-language therapist believe they need in collaboration to work with regular education teachers, this study was limited to speech-language therapists working in the state of Pennsylvania. A review of the literature was conducted regarding the theoretical framework for teacher self-efficacy and the theoretical framework for collaboration. A researcher-constructed survey, based on key concepts gleaned from the review of the literature and prior research efforts in the field was validated through a pilot study with input from three supervisors of special education for speech-language support programs and three speech-language therapists practicing in the schools in Pennsylvania. The survey was piloted to establish clarity and content validity prior to distribution to the survey respondents. Practicing speech-language therapists throughout the Commonwealth of Pennsylvania responded to the survey. A total of 164 surveys were completed and returned for analysis. From this initial pool of respondents, 11 self-volunteered, self-selected speech-language therapists participated in a telephone interview designed to gather in-depth information with respect to their self-efficacy beliefs regarding their skills to work in collaboration with regular education classroom teachers. The researcher also investigated what additional preparation, if any; the speech-language therapists believed they need in order to collaborate with regular education teachers.

The survey instrument was used to learn about the distribution of characteristics, attitudes, and beliefs held by speech-language therapists working in educational settings

in Pennsylvania and to describe the various responses of the individuals in the study. Semi-structured interviews were conducted after the surveys were completed. Interviews were used to gain a deeper understanding of the information gathered in the surveys. Data from the surveys and interview were read and re-read by the researcher to obtain a general sense of the information and to reflect on its overall meaning. Data was coded into chunks of information. As the data was continually reviewed, topics were coded into categories and themes. Narrative passages were used to report the findings of the analysis. The narratives detailed the themes that emerged, the multiple perspectives from individuals and the quotations from the participants.

Findings and Conclusions

The goal of this study was to help fill the void in the literature that explored the self-efficacy beliefs of speech-language therapists regarding their skills to collaborate with regular education classroom teachers and to understand what additional preparation, if any, speech-language therapists believe they need in collaboration to work with regular education teachers.

The general picture this researcher can paint from the information gathered through surveys and telephone interviews is that of a confident group of speech-language therapists who work in schools in Pennsylvania and who hold strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers. Based on the information gathered in this study it appears that individuals who held advanced degrees and those who had five or more years of experience held strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers. These results are surprising because the survey respondents and interview participants

expressed receiving very limited pre-service and in-service education in the area of collaboration. Ross (1994) found that personal teaching efficacy appeared to be influenced by different levels of preparation and professional development Research also indicates that professional development opportunities affect teachers' self-efficacy beliefs by compelling them to think critically and behave in a manner that improves their classroom and instructional practices (Henson, 2001). One of the interview participants reported receiving some pre-service education in collaboration. All of the individuals interviewed reported receiving some type of in-service education and they all had experience working in collaboration with regular education classroom teachers. These findings indicate that self-efficacy is not simply gained from course work but rather a combination of knowledge acquired through pre-service education and/or in-service education and field experience. Surprisingly, despite the high self-reported feelings of competence, 77% of the survey respondents indicated they could benefit from additional coursework in collaboration, 88% of the survey respondents and 100% of the interview participants reported they could benefit from additional in-servicing in the area of collaboration. Respondents and participants alike expressed an over whelming desire for more pre-service and in-service education in collaboration. Therefore, college and university training programs, as well as local state educational agencies should provide educational opportunities beyond those which are currently being offered. Specifically, universities should provide more course work and practical experiences and special education supervisors of school programs should provide staff trainings and local workshops as a mechanism for disseminating information regarding collaboration for speech-language therapists working with regular education teachers. Of the 164 survey

responses, 70.1% (115 of 164) of the survey respondents and 100% (11 of 11) of the interview participants preferred to obtain information on collaboration by attending in-service sessions or conferences. These findings echoed the findings of Elksnin and Capiolouto (1994).

Social skills (Moe & Ziess, 1982), assertiveness (Lee, 1983, 1984) motivation and choices an individual makes (Pajares, 1997; Herman, Meece, & McCombs, 2000) have been found to influence self-efficacy beliefs. Participants 5, 6, 9 and 3 all reported a preference to work with others, engaging in a high degree of communication with classroom teachers and other colleagues and all reported evidence of demonstrating initiative and advocating for working in collaboration with classroom teachers for the benefit of students. Some explanations for this reported high sense of self-efficacy to work in collaboration with regular education teachers may result from having strong clinical skills, possessing many years of experience as a speech-language therapist, spending a lot of time in regular education classrooms and gaining information about the regular education curriculum. Teaching efficacy beliefs in experienced teachers appear to be particularly difficult to change because of the internal nature of beliefs that have solidified with experience and time (Ross, 1994). For example, the percentage of speech-language therapists that feel competent they have enough clinical and instructional skills to collaborate with regular education classroom teachers was 88.4% (145 of 164). Regarding educational preparation, 117 of the 164 (71.3%) speech-language therapists felt competent that they have enough educational preparation to collaborate with regular education classroom teachers. Another explanation may be some of the speech-language therapists' unknowingly lack an accurate and comprehensive understanding regarding

what it truly means to work collaboration with regular education classroom teachers. Neither a high degree of training nor a unified approach to training in collaboration emerged from the data. This may, in part, explain the lower percentage of survey respondents feeling knowledgeable regarding the types of collaboration and the confusion some of the interview participants had regarding what collaboration is and is not. Only 61.5% (101 of 164) of survey respondents reported being knowledgeable regarding the types of co-teaching, (e.g., one teach-one support, station teaching, parallel teaching, alternative teaching, and team teaching). For the purpose of this study collaboration was defined as the direct interaction of two or more equal parties voluntarily engaged in shared decision-making as they work towards common goals when instructing students (Friend & Cook, 2007). Many of the speech-language therapists in the study reported a high level of communication and interaction with their regular education colleagues. Likewise, the participants, who pose strong social skills, are assertive in getting their needs and wants met and poses a strong desire to work in collaboration with classroom teachers also held strong self-efficacy beliefs regarding their ability to work in collaboration with regular classroom teachers. It appears having high levels of communication and interaction with others may be confused with true collaboration.

Themes in collaboration emerged as important to survey respondents and interview participants. The themes that emerged included parity among colleagues, flexibility, access to shared resources, shared accountability for outcomes, mutual and shared goals and administrative support. These themes of collaboration appeared to impact the beliefs speech-language therapists held regarding their ability to collaborate with regular education classroom teachers. 96.9% (159 of 164) of the survey respondents

believe they possess respect and trust for their regular education classroom colleagues and the number of survey respondents that reported they possess flexibility when working with others was 98.7%. Participant 5 reported, "The teacher and I have complete respect for one another. When we collaborate it is a true partnership. When students aren't being successful, we brainstorm together. We both remain open and willing to try new things. We both deliver instruction and monitor student progress. The really great thing is we have a lot of support from the principal. Without all of these things in place collaboration wouldn't be successful." Likewise, when these same themes of collaboration were not in place, interview participants expressed feelings of defeat. Participant 11 recalled,

> I once had a principal who did not believe in collaboration. We weren't given time to co-plan. This made it very difficult to know what the students were working on and needed in the classroom. Many of the teachers in that building were not open minded and were not very flexible with me. Some were not willing to let me see their student at certain
>
> times. I just never completely felt good about what I was doing when I worked in that building.

Understanding self-efficacy beliefs, the skills of collaboration and the influences these constructs have on an individual's success is very significant to understanding an individual's actions. Self-efficacy beliefs influence an individual's self-regulation, motivation and the choices one makes (Pajares, 1997; Herman, Meece, & McCombs, 2000). Most individuals have a tendency to choose activities in which they feel competent and confident and avoid those in which they are not. Therefore, speech-language therapists that develop skills and knowledge in collaboration through pre-

service training, in-service training and/or on-the-job training may develop the skills and the confidence needed to provide service to students in a collaborative manner.

If the profession of speech-language pathology is to assume an increased role in the education of children with speech-language impairments, a need for the modification and/or expansion of existing pre-service preparation programs and in-service education opportunities needs to occur. At present, training experiences vary among institutions of higher education and in-service training provided to speech-language therapists working in schools. However, educational leaders can tap the deep reserve of experience, confidence, and commitment of speech-language therapists and provide a unified and coherent approach to education in the area of collaboration.

Implications

The findings in this study suggest speech-language therapists want and need pre-service education and in-service instruction through workshops and conferences. This will ensure they poses an accurate understanding of collaboration, the various models of collaboration and activities of collaboration that will promote shared decision making as team members work toward common and mutually agreed upon goals for instruction students. Administrative support for adequate and appropriate planning time and time to deliver collaboratively taught lessons is also critical.

Recommendations for Further Study

This study focused on the self-efficacy beliefs of speech-language therapists regarding their ability to collaborate with regular education classroom teachers. The two key federal education laws, No Child Left Behind (NCLB) and the Individuals with Disabilities Education Improvement Act (IDEA) 2004, serve as the framework for

instruction and intervention for regular and special education personnel in schools. IDEA 2004 continues to emphasize fundamental concepts promoted in IDEA 1997 that support the need for collaboration among regular educators and related service providers in educational settings. NCLB stresses the need for accountability and shared responsibility for student outcomes. When speech-language therapists in the study were asked what they perceived to be the most beneficial form of continuing education or in-service education to learn about, and to develop knowledge and skills of collaboration, they reported attending in-service sessions or conferences to be the most beneficial form for acquiring this information. These finding collaborated the research of Elksnin and Capilouto (1994). Of the 164 survey respondents, 70.1% (115 of 164) and 100% (11 of 11) interview participants indicated they preferred workshops, trainings and/or lectures over course work to learn about and develop their knowledge and skills of collaboration. Access to classrooms requires administrative support thus securing administrative support (Cook & Friend, 1990; Friend & Cook, 1992) can be the first step and an important step in a successful collaboration between speech-language therapists and regular education teachers. Therefore, a recommendation for further study would be to examine the perceptions and practices of school administrators regarding the in-service opportunities in collaboration they provide to speech-language therapists and regular education teachers.

A second recommendation is to examine the pre-service training programs available to speech-language therapists in different colleges and universities in Pennsylvania and across the United States. Accreditation standards vary among states. It would be beneficial to explore the results of the study when performed on speech-

language therapists from other states in respect to the levels of academic knowledge, clinical and/or educational experiences they receive in the area of collaboration.

A third recommendation for further study is to examine the perception of regular education teachers' self-efficacy beliefs regarding their ability to collaborate with speech-language therapists.

A fourth and final suggestion is to examine the components of the study with different sample populations from a location perspective. The study took place in Pennsylvania. Replicating the study on a larger scale may produce additional information to either enhance or diminish the information gathered and the knowledge gained from this study.

Summary

This mixed-method case study explored the self-efficacy beliefs of speech-language therapists working in schools in Pennsylvania regarding their skills to collaborate with regular education classroom teachers. It also explored what additional preparation, if any speech-language therapists believe they need in collaboration to work with regular education teachers.

Federal and state laws and practices mandating students be educated in least restrictive environments make it necessary to provide training to speech-language therapists on collaboration. The information gathered suggests that speech-language therapists working in schools in Pennsylvania report having strong self-efficacy beliefs regarding their skills to collaborate with regular education classroom teachers despite receiving minimal to no coursework and clinical experience in collaboration in bachelor's and master's level programs that prepare individuals to become speech-language

therapists. The information gathered in this study also revealed many of the survey respondents and all of the interview participants felt they could benefit from additional coursework in the area of collaboration and they could benefit from additional in-servicing in the area of collaboration. A high number of respondents and all of the participants in this study identified workshops/trainings/lectures along with time spent planning, discussing and communicating with colleagues as the most beneficial means to learn about and develop skills and knowledge of collaboration. A surprising finding was uncovered during this study. Speech-language therapists working in schools in Pennsylvania may lack an accurate understanding of what it means to work in collaboration with regular education teachers. The collective information gathered from the study suggests that additional coursework addressing collaboration along with modifications to other avenues of professional preparation such as in-service opportunities, workshops, lectures and/or time spent planning, discussing and communicating with colleagues are desired and are necessary to ensure stronger and appropriate preparation of speech-language therapists planning to and/or working in collaboration with regular education teachers in schools.

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Appendix A
An East Stroudsburg University of Pennsylvania and Indiana University of Pennsylvania
Doctoral Dissertation

September 18, 2009

Dear _____:

I am a doctoral student at East Stroudsburg University of Pennsylvania in collaboration with Indiana University of Pennsylvania. I am in the process of collecting data for my dissertation research. My topic is the self-efficacy beliefs of speech-language therapists regarding their preparation and skills to work collaboratively with regular education classroom teachers. My proposed dissertation study will use a web-based survey instrument to investigate the self-efficacy beliefs of speech-language therapists in Pennsylvania regarding their preparation and skills in the area of collaboration to work with regular education classroom teachers.

I am seeking the participation of speech-language therapists from as many school districts as possible in Pennsylvania. The information obtained from the study will hopefully lead to (a) better understanding of the self-efficacy beliefs of speech-language therapists regarding their pre-service and in-service preparation and skills to work collaboratively with regular eduation classroom teachers, and (b) ways this information may be used in teacher preparation programs at both the pre-service and in-service level of professional development.

In a few days from receipt of this letter, you will be receiving an email explaining the purpose of this survey. The email will also contain a link that will take you directly to the Web based Zoomerang survey.

If you have any questions or concerns, please contact me at 610-588-2976 or by email dhopstetter@ciu20.org. You may also contact Dr. Margot Vagliardo at 570-422-3858 or by email mvagliardo@po-box.esu.edu or the IRB Administrator listed below.

In closing, I am hopeful that you will support my research by participating in this study.

Sincerely,

Donna L. Hopstetter
Educational Leadership Doctoral Student
East Stroudsburg University of Pennsylvania
Indiana University of Pennsylvania

This project has been approved by the East Stroudsburg University of Pennsylvania
Institutional Review Board for the Protection of Human Subjects
Dr. Shala Davis,IRB Administrator, (570) 422-3536 Ext. 3336

Appendix B
Introduction Letter - Survey Instrument
An East Stroudsburg University of Pennsylvania and Indiana University of Pennsylvania
Doctoral Dissertation

June 2009

Dear Colleague:

I am a doctoral student at East Stroudsburg University of Pennsylvania in collaboration with Indiana University of Pennsylvania. I am currently in the dissertation phase of my program and collecting data for my dissertation research. The purpose of my study is to investigate the self-efficacy beliefs of speech-language therapists regarding their preparation and skills to work collaboratively with regular education classroom teachers.

As stated in my previous communication, I am seeking the participation of speech-language therapists from as many school districts as possible in Pennsylvania. The information obtained from the study will hopefully lead to (a) better understanding of the self-efficacy beliefs of speech-language therapists regarding their pre-service and in-service preparation and skills to collaborate with regular eduation classroom teachers, and (b) ways this information may be used in teacher preparation programs at both the pre-service and in-service level of professional development. Therefore I would greatly appreciate if you would set aside approximately 20 minutes of what I know is valuable time to complete a Zoomerang Survey.

This letter is to both inform you of my study as well as request your participation. Your participation in this study is completely voluntary and has no affiliation with any school district or Pennsylvania system of higher education. Therefore, should you choose not to participate, there will be no adverse consequences to you or your employment. With web-based surveys all respondents remain completely anonymous. Because this is an electronic survey, your participation in the survey will also serve as your consent for participation in the study. If you choose to participate, the survey should take approximatley 20 minutes to complete. The survey can be accessed by clicking on the following link: www.zoomerang.com.

In closing, I am hopeful you will support the preparation and training of speech-language therapists by sharing your knowledge and participating in this research study. If you have any questions, please contact me at 610-588-2976 or by email dhopstsetter@ciu20.org. You may also contact Dr. Margot Vagliardo at 570-422-3858 or by email mvagliardo@po-box.esu.edu or the IRB administrator listed below. If you wish to receive a copy of the results of my study please email your request to me.

Sincerely,
Donna L. Hopstetter
Educational Leadership Doctoral Student
East Stroudsburg University of Pennsylvania
Indiana University of Pennsylvania

This project has been approved by the East Stroudsburg University of Pennsylvania Institutional Review Board for the Protection of Human Subjects
Dr. Shala Davis, IRB Administrator, (570) 422-3536 x3336

Appendix C
Speech-Language Therapist - Survey Instrument

As a doctoral student at East Stroudsburg University, and Indiana University of Pennsylvania I am researching the self-efficacy beliefs of speech-language therapists regarding their preparation and skills to work collaboratively with regular education classroom teachers. The data gathered will be used to assist me in completing research for my dissertation and will enhance awareness of speech-language therapists' pre-service and in-service education, training, and skills in the area of collaboration for the purpose of working with regular education classroom teachers.

Your participation in this study is completely voluntary and has no affiliation with any school district or Pennsylvania system of higher education. Therefore, should you choose not to participate, there will be no adverse consequences to you or your employment. With web-based surveys all respondents remain completely anonymous. Because this is an electronic survey, your participation in the survey will also serve as your consent for participation in the study. If you choose to participate, the survey should take approximately 20 minutes to complete.

For the purpose of this survey *collaboration* is being defined as *individuals contributing their knowledge, skills and participating in shared decision making as they work together and problem solve to accomplish one or more common and mutually agreed upon goals in classroom settings.*

I. DEMOGRAPHICS

1. I am: ( ) female ( ) male

2. Is your position (Check One)
   ( ) full-time, permanent
   ( ) full-time, temporary (i.e., substitute, filling in for someone's leave)
   ( ) part-time, permanent
   ( ) part-time, temporary (i.e., substitute, assisting with compensatory education, supporting a large case load until, etc)

3. How long have you been a speech-language therapist?
   ( ) 1 – 5 years ( ) 6 – 10 years ( ) 11 – 15 years ( ) 16+ years

4. How many years of professional experience as a speech-language therapist have you had in the schools?
   ( ) 1 – 5 years ( ) 6 – 10 years ( ) 11 – 15 years ( ) 16+

5. In what type of school(s) are you currently employed? (Check all that apply)
   ( ) Public Preschool ( ) Private Preschool ( ) Parochial Preschool
   ( ) Public Elem. School ( ) Private Elem. School ( ) Parochial Elem. School
   ( ) Public Middle School/Junior High ( ) Private Middle School/Junior High
   ( ) Parochial Middle School/Junior High
   ( ) Public High School ( ) Private High School ( ) Parochial High School
   ( ) Other; please specify: _____

6. Would you describe your school(s) as:
   ( ) rural ( ) urban ( ) surburban

7. How many years have you been at your current school(s)?
   ( ) 1 – 5 years ( ) 6 – 10 years ( ) 11 – 15 years ( ) 16+

8. Do you hold a:
   ( ) Pennsylvania State License as a Speech-Language Pathologist
   ( ) ASHA Certificate of Clinical Competency in Speech-Language Pathology (CCC-SLP)
   ( ) Pennsylvania State License as a Speech-Language Pathologist and ASHA Certificate of Clinical Competency in Speech-Language Pathology (CCC-SLP)
   ( ) Clinical Fellowship Year (CFY) in progress

II. EDUCATION

1. Highest degree held in speech-language pathology
   ( ) Bachelors ( ) Masters ( ) Doctorate

2. Date received highest degree
   ( ) Prior to 1979 ( ) 1980 – 1989 ( ) 1990 – 1999 ( ) 2000 – Present
   ( ) Do Not Recall

3a. Courses taken in **undergraduate studies** that only addressed collaboration:
   ( ) 0 courses ( ) 1 course ( ) 2 courses ( ) 3+ courses ( ) Do Not Recall

b. Courses taken in **undergraduate studies** that addressed collaboration as a course component:
   ( ) 0 courses ( ) 1 course ( ) 2 courses ( ) 3+ courses ( ) Do Not Recall

c. Courses taken, entirely or partially, on collaboration fell into the following categories (check all that apply):
   ( ) Speech-Language Pathology
   ( ) Special Education
   ( ) General Education
   ( ) Other: Please specify_____

d. Courses in **undergraduate studies** that addressed collaboration as a course component, approximately how much time was spent discussing collaboration?
   ( ) 1 week or less ( ) 2 weeks ( ) 3 weeks ( ) 4+weeks ( ) Do Not Recall

4a. Courses taken in **graduate studies** that only addressed collaboration:
   ( ) 0 courses ( ) 1 course ( ) 2 courses ( ) 3+ courses ( ) Do Not Recall

b. Courses taken in **graduate studies** that addressed collaboration as a course component:
   ( ) 0 courses ( ) 1 course ( ) 2 courses ( ) 3+ courses ( ) Do Not Recall

c. Courses taken, entirely or partially, on collaboration fell into the following categories (check all that apply):
( ) Speech-Language Pathology
( ) Special Education
( ) General Education
( ) Other: Please specify_____

d. Courses in **graduate studies** that addressed collaboration as a course component, approximately how much time was spent discussing collaboration?
( ) 1 week or less ( ) 2 weeks ( ) 3 weeks ( ) 4+weeks ( ) Do Not Recall

5. As part of my clinical training, practicum experiences, and/or student teaching experience, I participated in collaborative service delivery.
( ) Yes ( ) No

6. I believe course work and opportunities for practical experience on collaboration should be a part of pre-service education?
( ) Yes ( ) No

III. CONTINUING EDUCATION

1. Since receiving my highest degree, I have taken _____courses at or through a college or university on collaboration
( ) 0 courses ( ) 1 course ( ) 2 courses ( ) 3+ courses

2. Since my employment in the schools, I have attended _____workshops, staff trainings and/or lectures on collaboration
( ) 0 workshops/trainings/lectures ( ) 1 workshop/training/lecture
( ) 2workshop/trainings/lectures ( ) 3 + workshops/trainings/lectures

3. I engage in continuing education activities on collaboration because
( ) I am interested personally/professionally
( ) My colleague(s) and I have volunteered to work in a collaborative model
( ) My school/district is moving towards/is using collaborative models of instruction
( ) I am required to do this for my job
( ) Not applicable

4. The most beneficial forms of continuing education to learn about and develop my knowledge and skills of collaboration, have been (Check all that apply)
( ) Course work
( ) Workshops/trainings/lectures
( ) Time spent planning/discussing/communicating with colleagues
( ) Not applicable

5. As part of my past or current employment situation, I provide therapy/instruction in a collaborative classroom with a regular education classroom teacher:
   ( ) Yes, I do this because:
   ( ) The classroom teacher and I choose to collaborate
   ( ) My school/district requires the speech-language therapists to work collaboratively in the classroom(s)
   ( ) No, I do not do this because:
   ( ) The classroom teacher and I did not choose to collaborate
   ( ) My school/district does not require the speech-language therapists to work collaboratively in the classroom(s)

6. I believe instruction and practical experience on collaboration should be a part of in-service education?
   ( ) Yes ( ) No

IV. PERCEIVED SKILLS AND KNOWLEDGE

1. Please indicate the degree to which you agree or disagree with each of the following statements by checking the appropriate box to the right of each statement.

SA =Strongly Agree A=Agree UN=Uncertain D=Disagree SD=Strongly Disagree

	1 SA	**2 A**	**3 UN**	**4 D**	**5 SD**
Collaboration requires equality among participants who collaborate					
Collaboration requires mutual goals between participants who collaborate					
Collaboration requires shared responsibility for participation and decision making					
Collaboration requires shared resources, such as time, expertise, space, instructional materials, information, and special techniques among participants who collaborate					
Collaboration requires individuals to share accountability for outcomes of their decisions					
Educators should be required to collaborate					
Collaboration must be embedded in one's job					
Collaboration must be a part of the school improvement plan					
Teachers need structured opportunities to learn how to collaborate					
Teachers need structured opportunities to learn interpersonal communication and support skills					
Collaborative teams need blocks of scheduled time for co-planning					

Collaborative teams need opportunities to define roles and responsibilities					
Administrators and collaborative teams must meet on a regular basis					
Collaboration does not take place in isolation					
Collaboration does not happen quickly					

2. Please indicate the degree to which you agree or disagree with each of the following statements by checking the appropriate box to the right of each statement.

   SA = Strongly Agree A = Agree UN = Uncertain D = Disagree SD = Strongly Disagree.

	1 SA	**2 A**	**3 UN**	**4 D**	**5 SD**
I posess a high level of confidence in my abilities as a speech-language therapist					
I possess the communication skills needed to collaborate with regular education classroom colleagues					
I posess respect and trust for my regular education classroom colleagues					
I posess flexibility when working with others					
I posess the ability to problem solve in a team situation					

3. Please indicate the degree to which you agree or disagree with each of the following statements by checking the appropriate box to the right of each statement.

   SA = Strongly Agree A = Agree UN = Uncertain D = Disagree SD = Strongly Disagree

	1 SA	**2 A**	**3 UN**	**4 D**	**5 SD**
I am knowledgable regarding the types of co-teaching, e.g., one teach – one support, station teaching, parallel teaching, alternative teaching, and team teaching					
I feel competent that I have enough educational training to collaborate with regular education classroom teachers					
I feel competent that I have enough clinical and instructional skills to collaborate with regular education classroom teachers					
I feel I could benefit from additional coursework in the area of collaboration					
I feel I could benefit from additional in-servicing such as workshops/training/lectures in the area of collaboration					
Given professional preparation in collaboration, time to co-plan, resources, space support from regular education colleagues and administrative support I would volunteer to					

work collaboratively with the regular education classroom teacher					
I feel competent to collaborate					

V. <u>Willingness to Participate in an Interview</u>

If you are willing to participate in a phone interview in order to provide the researcher with additional information about your beliefs regarding your training in collaboration with regular education teachers, please include:

Your full name
Mailing Address
Phone number
Email address.

No personal identifying information about you will be published or made available to anyone. All personal identifying information gathered from you will be deleted from documents and replaced by codes. All survey and interview responses will be kept in a locked cabinet and destroyed following the completion of the study.

Appendix D
Speech-Language Therapist - Interview Instrument

Thank you for agreeing to take part in this interview. Your participation will contribute to a more thorough understanding of pre-service and in-service training you may have received in, collaboration, and your self-efficacy beliefs surrounding your competency to work collaboratively with regular education classroom teachers.

As indicated in the pre-contact letter and the email communication introducing my study, I am a doctoral student at East Stroudsburg University of Pennsylvania in collaboration with Indiana University of Pennsylvania. I am currently in the dissertation phase of my program.

The purpose of my study is to investigate the self-efficacy beliefs of speech-language therapists regarding their skills in collaboration to work with regular education classroom teachers. Your participation in this study is completely voluntary. This study is not affiliated with any school district or Pennsylvania system of higher education. You have the right to withdraw at any time without penalty by verbally requesting to stop the interview. No personal identifying information about you will be published or made available to anyone. All identifying information such as years of service, setting in which employed, etc. will be deleted, disguised, or reported in the aggregated to protect confidentiality. Information gathered from you will be kept in a locked cabinet and destroyed following the completion of the study. The entire interview should take approximately 20 – 30 minutes. Please provide your consent to participate in the interview by verbally responding with "yes" or "no" to the following question, "Do you (*First and Last Name of Interviewee*) agree to participate in the interview to discuss "*self-efficacy beliefs of speech-language therapist in collaboration to work with regular education classroom teachers." Yes No* (Circle interviewee's response*)* Do you have any questions before we begin? Do I have your permission to tape the interview? *Yes No* (Circle interviewee's response)

For the purpose of this survey, *collaboration* is being defined as *individuals contributing their knowledge and skills and participating in shared decision making as they work together and problem solve to accomplish one or more common and mutually agreed upon goals. Self-Efficacy* is being defined as *a person's beliefs or expectations about his/her ability to accomplish certain tasks successfully or demonstrate certain behaviors.*

I. EDUCATION

1. During your **undergraduate** studies how many courses did you have that only addressed collaboration? How many **undergraduate** courses did you have that addressed collaboration as a course component?
   During your studies what was the name of the course(s) you had on collaboration?

   a. What topics were covered in that course(s)?

   b. What do you believe you gained from taking the course(s)?

c. Of the courses taken as part of your undergraduate studies that addressed collaboration as a course component approximately how much time was spent discussing collaboration?

   Do you feel enough time was or was not spent discussing collaboration? Please explain

d. Based on the courses you have taken in collaboration, what could be improved? Why?

2. During your **graduat**e studies how many courses did you have that only addressed collaboration? How many graduate courses did you have that addressed collaboration as a course component?
   During your **graduate** studies what was the name of the course(s) you had on collaboration?

   a. What topics were covered in that course(s)?

   b. What do you believe you gained from taking the course(s)?

   c. Of the courses taken as part of your **graduate** studies that addressed collaboration as a course component approximately how much time was spent discussing collaboration?
      Do you feel enough time was or was not spent discussing collaboration? Please explain

   d. Based on the courses you have taken in collaboration, what could be improved? Why?

II. CONTINUING EDUCATION

1. Have you gained professional skills regarding collaboration in the form of _____.
   The initiative to attend this activity was <u>your choice</u> or <u>mandated by your employer.</u>

	Yes	No	My Choice	My Employer
Workshop(s)				
Conference(s)				

Staff Training(s)				
Training from Colleagues				
Professional Journal Readings				

2. What topics were covered in the workshops, conferences, staff trainings, trainings from colleagues and/or professional journal reading you engaged in regarding collaboration?

    a. What specifically do you feel you gained from participating in:
    The workshops –

    The conferences:

    The staff trainings:

    Trainings from colleagues:

    Professional Journal Readings:

    b. What do you feel you are now able to do as a result of the professional preparation you received from your participation in these activities regarding collaborative with regular education classroom teachers? Please explain.

    c. What was your the goal or reason for participating in these professional preparation activities in collaboration?

    d. Has your professional preparation increased working relationship with regular classroom teachers?

III. SKILLS AND KNOWLEDGE

1. What percentage of your day or week do you engage in activities of collaboration such as co-planning, instructional delivery, and/or student assessment with regular education teachers?

2. Describe the nature of your interaction(s) with regular education teachers.

3. Describe any experiences you had that support or hinder collaboration with regular education classroom teachers.

4. Please elaborate on what has contributed to a successful collaboration experience or an unsuccessful collaboration experience.

5. Is there anything you would like to add?

Again, thank you for your participation in this study. I deeply appreciate the time you took to speak with me along with the information you shared. This information has the potential to enhance awareness of what to include specifically in pre-service and in-service preparation programs for school based speech-language therapists regarding collaboration with regular education classroom teachers.

Appendix E

Conceptual Framework for Self-Efficacy

Key Elements in Lit Review	*Descriptors*	Researchers
Perceived Self-Efficacy	Judgment of one's ability to organize and execute given types of performances	Bandura (1977)
	What a person believes he or she is capable of doing under various circumstances	Bandura (1977)
	Judgments are task and situation specific , meaning they are made in reference to some type of goal	Bandura (1977)
	Perceived capabilities of self are important to future goals and the control they exercise over their environment	Bandura (1977)
	Influences courses of action to take, amount of effort that is applied, perseverance in tasks, thought processes and emotional reactions when confronted with obstacles	Bandura (1986); Lent, Brown & Hackett (1994)
	Mediators for our behavior and behavioral change	Henson (2001); Bandura (1986)
	Impacts success and failure of a given task	Henson (2001)
	Belief in one's skills	Pajares (1997)
	Belief in one's academic capabilities as a result of course work and field experience	Plourde (2002)
Sources of Self-Efficacy Development	Mastery experiences or previous performance achievement	Bandura (1986)
	Vicarious experiences, social comparison and models	Bandura (1986); Schunk (1981, 1983, 1989)
	Verbal persuasion	Bandura (1986); Zeldin & Pajares (1997)
	Physiological and affective states	Bandura (1986)
Influences of Self-Efficacy Beliefs	Influence an individual's self-regulation, motivation and choices one makes	Pajares (1997); Herman, Meece & McCombs (2000)
	Strong predictors of personal accomplishments	Bandura (1997)
	Linked to social skills	Moe & Ziess (1982)
	Linked to assertiveness	Lee (1983, 1984)
	Teaching behaviors	Pajares (1996)
Teacher Self-Efficacy Beliefs	Self-judgment of ability to function as an instructional leader in the classroom/contribution of school instructional policy	Fletcher (1990)
	Ability to which teachers believe they have the	Berman,

	capacity to affect student performance; promote students' learning; beliefs about their convictions that they can influence how well student learn	McLaughlin, Bass, Pauly &Zellman (1997); Tschannen-Moran & Woolfolk-Hoy (2001); Guskey & Passaro (1994)
	Perceptions about own capabilities to foster students' learning and engagement	Shaughnessy (2004
	Belief they can control the reinforcement of actions within themselves or in the environment	Rotter (1966)
Development of Teachers Self-Efficacy Beliefs	Strong relationship among efficacy, classroom and school decision making; personal and teaching efficacy are highly related	Moore & Esselman (1992)
	School climate is related positively and negatively to classroom practices and teachers collegiality	Moore & Esselman (1992)
	Personal and general teaching efficacy is influenced by different levels of training and professional development	Ross (1994)
	Personal teaching efficacy beliefs in experienced teachers appears difficult to change because of beliefs that have solidified with experience and time	Ross (1994)
	Professional development opportunities are believed to affect teachers' efficacy beliefs by compelling them to think critically and behave in a manner that improves their classroom and instructional practices	Henson (2001)
	Teacher efficacy beliefs play a role in teachers' development of knowledge and practices that influence their effectiveness in instructional strategies	Smylie (1988); Tschannen-Moran, Woolfolk-Hoy & Hoy (1998)
	Teacher efficacy beliefs affect interaction with students and other professionals	Smylie (1988); Tschannen-Moran, Woolfolk-Hoy & Hoy (1998)
Teacher Efficacy of Novice Teachers	Efficacy is most easily influenced in the early years of learning	Bandura (1977)
	Early years of teaching are critical to the long term development of teacher efficacy	Bandura (1986); Woolfolk-Hoy (2000)

Appendix F

Conceptual Framework for Collaboration

Characteristics of Collaboration	Descriptors	Researchers
Parity		Friend & Cook (2003; Ryndak & Alper (1996)
	Recognizes all contributions	Star & Lacey (1996); Rainforth, York & Macdonald (1992)
	Builds mutual respect	Star & Lacey (1996)
Mutual Goals		O'Malley (2000); Darling- Hamond & McLaughlin (1995); Johnson & Bauer (1992); Pugach & Johnson (2002); Rainforth, York & Macdonald (1992); Falvey (1989)
Shared Responsibility for Decision Making		Friend & Cook (2003)
	Equally shared responsibility for decision making	Ryndak & Alper (1996)
Shared Resources		Friend & Cook (2003, 1992)
	Shared space	Vaughn, Schumm & Anguelles (1997)
	Shared planning time	Vaughn, Schumm & Anguelles (1997)
	Increased professional knowledge base	Pugach & Johnson (1995); Louis, Kruse & Marks (1996); Rosenholtz (1989); Snyder (1994); Trent (1998); Walther-Thomas (1997); Rainforth, York & Macdonald (1992)
Shared Accountability for Outcomes		Friend & Cook (2003)
	Jointly share success and failures of student learning	Vaughn, Schumm & Anguelles (1997)
Flexibility		Roller, Rodriques, Warner & Lindahl (1992)
	Openness to new ideas	Roller, Rodriques, Warner & Lindahl (1992)
Administrative Support		Friend & Cook (1992); Cook & Friend (1990)