A MULTI-CASE STUDY EXAMINING CO-TEACHING APPROACHES AND PRACTICES

IN HIGH SCHOOL MATHEMATICS AND LITERATURE/COMPOSITION CLASSES

by

Patti A. Cleaveland

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Education

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ABSTRACT

Special education provides a variety of instructional models to ensure the success of students with disabilities. The increasingly utilized model of co-teaching allows students with disabilities access to the general education environment with the support of special education teachers. The co-teaching model consists of one general and one special education teacher who work together to ensure the success of both the special education and general education students. This qualitative study investigated and explained the co-teaching approaches and practices used by co-teaching partners participating in the academic areas of literature/composition and mathematics classes at the high school level. A multiple case study approach was used to identify the instructional strategies of five special education teachers and five general educations teachers who participated in co-teaching environments. The research was conducted through focus group interviews of the pairs of co-teaching partners from each case, individual participant interviews, and classroom observations. The findings from this study demonstrated that the co-teachers perceive the most effective co-teaching approaches were the supportive approach for high school literature/composition teachers and the teaming approach for high school mathematics teachers. Also, the findings demonstrated that literature/composition teachers identified group work and mathematics teachers identified peer tutoring as effective instructional practices in their classrooms. The findings will be used to share with other high school teachers and administrators to boost the success of co-teaching environments.

Keywords: Inclusion, co-teaching, special education, and multi-case study

Dedication

I dedicate this study to my husband, Spencer, who has devoted his time and energy to ensure that my writing was properly edited and prepared to go before committee reviews and the final defense. He supported and encouraged me throughout this endeavor. His contribution was invaluable and I know that I could not have accomplished this feat without him.

I also dedicate this study to the memory my parents, Bob and Barbara Allen, who are no longer on this earth but with our precious Lord in heaven. Bob and Barbara dropped out of school when they were teenagers, got married, and had six children. Although they did not obtain General Equivalency Diplomas (GED's) until their later years, they instilled in their children the love of learning, and four of their children entered the educational field. More importantly, they instilled in their children the knowledge that Jesus Christ is Savior, and people can only receive the gift of eternal life through Him. I could not ask for better parents and I hold the precious memories of them close in my heart. I know they would have been proud of this latest accomplishment in my life.

I dedicate this study to God, who answered my prayers throughout the whole doctoral program. He provided for me in ways that only my family and dissertation chairperson are aware. He gave me the peace and strength to overcome major obstacles on this journey and I cannot praise Him enough. The King James Version of the Bible tells us:

> Be careful for nothing; but in every thing by prayer and supplication with thanksgiving
> let your requests be made known to God. And the peace of God, which passeth all
> understanding, shall keep your hearts and minds through Christ Jesus. (Philippians 4: 6-7)

Acknowledgements

This study would not have been completed without the answer to one of my prayers. I prayed for a chairperson who would devote herself to assisting her doctoral students by carefully reading and examining her students' writings to ensure accuracy and quality. God deliberately placed Dr. Gail Collins on my path and I feel blessed to have such a dedicated chairperson who not only gives her best but expects the best from her students. Dr. Collins provided necessary constructive criticism in a timely manner, answered my many questions, and cheered me on when I needed it most. I thank you, Dr. Collins, and my wish is that my students hold me with the same high regard and respect as I have for you.

I would also like to thank Dr. Kathy Keafer, Dr. Zabrina Cannady, and Dr. Lucinda Spaulding for taking the time to read my dissertation, provide suggestions and insight, and contribute to my study overall. Their comments, questions, and constructive criticism not only helped me complete this project, but made me dig deeper and thoroughly think through the process.

I would like to thank Dr. Jenny McClintic for helping me with my raw data analysis, cross analysis, and final assertions. Her input was helpful and I am very appreciative.

Finally, I would like to thank all those who participated in the study. Their eagerness to contribute their time, share information, and provide suggestions to new co-teachers was essential to this study and will assist in benefitting future co-teaching partnerships.

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List of Abbreviations

Adequate Yearly Progress (AYP)

Fundamental Interpersonal Relations Orientation (FIRO)

General Equivalency Diploma (GED)

Individualized Educational Program (IEP)

Individuals with Disabilities Education Act (IDEA)

Institutional Review Board (IRB)

Least Restrictive Environment (LRE)

National Council of Teachers of Mathematics (NCTM)

National Defense Education Act (NDEA)

No Child Left Behind Act (NCLB)

Regular Education Initiative (REI)

Teacher Alternative Preparation Program (TAPP)

CHAPTER ONE: INTRODUCTION

Overview

Approximately forty years have passed since public school systems were legally required to provide special education opportunities for students with intellectual and learning disabilities, emotional and behavioral disorders, and other health impairments (Jiménez, Graf, & Rose, 2007). Historically, special education services were generally provided apart from regular education classrooms, and special education teachers took the sole responsibility of teaching their students in one classroom (Carpenter & Dyal, 2007; Fattig & Taylor, 2008; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). The separate classroom settings included instruction by special education teachers who had not necessarily been trained in specific content areas, but trained to provide the support needed for special education students to be successful in academic areas (Carpenter & Dyal, 2007). However, due to political and social pressures holding schools accountable for academic and social gains for all students, the instructional model, over the passage of time, changed for students with disabilities (Dukes & Lamar-Dukes, 2009). Although co-teaching emerged in the 1980s, recent federal legislation and policy adjustments caused a sudden shift in special education service delivery from resource classrooms to general education classrooms through co-teaching models (Friend et al, 2010). According to Zigmond and Matta (2004), legislators believed that holding educators accountable for higher education goals would produce better educational results. Furthermore, legislators believed students with disabilities were not receiving quality instruction in classrooms taught by special education teachers; however, the same students would receive quality instruction in general education classrooms taught by general education teachers. In other words, legislators assumed that by moving the students with disabilities into co-teaching environments, the problems

associated with the lack of quality instruction in special education classrooms would be eliminated.

Background

During the past thirty years the special education delivery model in the United States evolved to ensure that students with disabilities receive instruction from highly-qualified teachers (Murawski, 2009). The federal definition of a highly-qualified teacher in general terms is one who meets the following criteria: the teacher must be fully certified and/or licensed by the state, the teacher must hold at least a bachelor degree from a four-year institution, and the teacher must demonstrate competence in each core academic subject area taught by that teacher (No Child Left Behind Act of 2001: Qualifications of Teachers and Professionals, 2004). School improvement plans pushed the implementation of the No Child Left Behind Act (NCLB, 2004) and the renewal of the Individuals with Disabilities Education Act (IDEA) (Individuals with Disabilities Education Act, 1990) and propelled the translocation of special education services from special education classrooms to co-teaching models in general education classrooms (Handler, 2003; Murawski, 2009).

Co-teaching refers to two or more educational professionals who, in one classroom, cooperatively deliver instruction to a disparate group of students (Friend & Cook, 2007). Each teacher brings unique expertise to the collaborative effort of instruction to students with disabilities—the general education teacher provides the bulk of content instruction while the special education teacher provides pertinent information regarding the delivery of instruction (Wilson, 2008). According to Murawski (2009), "collaborative teaching provides general and special educators a greater opportunity to ensure that student with disabilities obtain a more structured and appropriate education with their community" (p. 10).

Friend and Bursuck (2012) explained co-teaching through six different approaches: one teach and one observe, station teaching, parallel teaching, alternative teaching, teaming, and one teach, one assist. In the one teach and one observe approach, one teacher assumes the role of the primary instructor and provides the instruction to the class while the other teacher observes the behaviors and academic performances of the students and uses the observations for specific data on each student. The station teaching approach involves the division of the class into three or more groups that rotate among three stations under the instruction and guidance of both teachers. Parallel teaching refers to each teacher simultaneously teaching half the class the same material. Alternative teaching allows one teacher to provide instruction to the majority of the class, while the other teacher focuses on a smaller group to provide remedial instruction or enrichment and testing. Teaming provides the opportunity for both teachers to instruct the group as a whole and present material that shows the students that there is more than one way to solve problems. One teach/one assist refers to one teacher providing the instruction to the whole class, while the other teacher provides assistance to any of the students that need help.

Situation to Self

In a qualitative study, a researcher begins with an individual set of beliefs, or worldviews to create the foundation of the study (Creswell, 2007). I have worked in co-teaching situations on several occasions and I believe that if teachers are properly prepared to co-teach, then the co-teaching experience will be rewarding and beneficial. If successful co-teaching relationships are studied, the findings can be used to support and enhance other co-teaching relationships. One method of qualitative studies is case study, which stems from the need to comprehend a social situation or phenomena (Yin, 2009). When I began this study, I had the desire to identify successful teaching strategies for mathematics co-teaching environments at the high school level.

Although I mainly teach resource mathematics classes, there are times when I find myself in co-teaching situations, and I would like to find ways to make the partnerships work. Therefore, the paradigm that shaped this study was social constructivism. Creswell (2007) stated that social constructivism is a way for the researcher to comprehend the environment in which one lives or works, and the purpose of the research is to identify and examine the viewpoints of the subjects participating in the study.

When I was first placed in co-teaching situations, I found myself in different subject areas and soon realized that a greater familiarity and mastery of the subject content produced a more satisfying and successful experience. Later, I settled in the area of mathematics and obtained certification in this area. Since then I have been placed with many different general education mathematics teachers, and the co-teaching experiences I had were overall successful. However, several of my co-teaching partners complained of bad experiences with other co-teachers in the past and told of their hesitancy to participate in co-teaching situations again. Other co-teaching partners expressed thoughts of positive experiences with co-teaching assignments and eagerly participated in these assignments.

Although I mainly taught students with disabilities in mathematics resource classrooms, I was interested in discovering ways for other special education and general education teachers to be successful in co-teaching classrooms in the academic areas of mathematics and literature/composition. I chose the academic areas of mathematics and literature/composition because these subject areas are most likely to be used for co-teaching environments. Villa, Thousand, and Nevin (2013) stated the following:

Some schools assign special educators to co-teach in the two primary areas of special

education eligibility (language arts and math) because these are the subjects in which

students generally need support and are two of the typical high-stakes assessment areas.

(p. 129)

In particular, I was interested in identifying which instructional practices and approaches of the co-teaching model work best at the high school level. I want to share the results of my study with high school co-teaching partners in order to improve their co-teaching practices and experiences.

Problem Statement

Studies conducted on school improvement efforts often revealed the lack of sufficient inclusionary services to students with disabilities (Scheeler, Congdon, & Stansbery, 2010; Scruggs, Mastropieri, & McDuffie, 2007; Waldron & McLeskey, 2010; Weiss & Lloyd, 2002). Many children with disabilities are indeed being served in general education classroom settings through co-teaching or collaboration, but most often these types of settings include the general education teachers taking lead roles and the special education teachers taking subordinate roles (Scheeler et al., 2010; Scruggs et al., 2007). A successful co-teaching model is dependent upon shared responsibilities, abilities, respect, and goals between the general education teacher and the special education teacher (Conderman, Bresnahan, & Pedersen, 2009). Further qualitative studies should examine authentic co-teaching models to determine the reasons for success (Bouck, 2007; Scruggs et al., 2007).

A successful co-teaching model can be identified by student success or the success of the co-teaching relationship. The success of students "can be defined in many ways, depending on the type of institution, its nature and mission, its student population, and the needs of its students" ("Defining Student Success", 2007, p. 3). The working relationship of the co-teaching partners is deemed successful by the shared philosophy, the prerequisites, the collaborative

relationship, the clear plans and procedures, and the supportive context of the relationship (Friend, 2008a). For the purposes of this study, the success of the co-teaching model will be based on student success—defined as students with disabilities exceeding the percentage of the state of Georgia's students with disabilities' passing rate on standardized testing in grades 9 and 10 during the spring testing administration of 2012 and 2013—and based on the success of the co-teaching relationship—defined by Friend's (2008a) identification of a successful co-teaching relationship.

The two primary content areas in which students with disabilities need support are mathematics and literature (Villa et al., 2013); however, a significant problem identified in a research study of high school mathematics co-teaching classrooms was the special education teachers' weak involvement in instruction. According to Mastropieri et al. (2005), the insufficient amount of lead instruction by mathematics special education co-teachers may be due to lack of content knowledge and has a considerable effect on the success of the co-teaching partnership by causing the general education teacher to take the lead role in the classroom. In addition, neither special education nor general education teachers take math methods courses that are directly related to teaching special education students (Maccini & Gagnon, 2006). The special education teachers are trained in how to "provide effective instructional practices and assessment accommodations" to students with disabilities while the general education teachers are trained in the knowledge of content areas (Maccini & Gagnon, 2006, p. 218). Zigmond and Matta (2004) found that special education teachers took more of an active involvement in lead instruction when they were placed in content areas where they felt more comfortable due to "personal experiences" or "general knowledge"—content areas such as English, social studies, and science. Although the special education teachers may have felt more comfortable with the

content areas of English, social studies, and science, Mastropieri et al. (2005) found that in the higher grade level content areas, the general education teachers had a deeper knowledge of the content, were considered the curriculum experts, and assumed the lead roles in these areas.

Another problem area in co-teaching settings is the pressure of high-stakes testing. The pace of instruction directed by high-stakes testing places emphasis on covering all required content within a specified time-frame and minimizes the importance of utilizing accommodating instructional strategies (Mastropieri et al. 2005). According to Mastropieri et al. (2005), "this rapid pace minimizes the amount of extra practice or supplemental review activities that can be inserted into the curriculum, which directly influences the role of the special educator in modifying content for students with disabilities in inclusive classes" (p. 268). Pinder (2013) found that teachers believed high-stakes testing placed the priority of instruction to be geared towards standardized tests in mathematics and science and did not allow time for teaching other essential parts of the curriculum. Pinder (2013) also found that the increased pace of instruction negatively affected the performance of students, as well as the teachers' instructional practices.

One of the most significant factors noted for problem areas in co-teaching environments is co-teacher non-compatibility. If co-teachers encounter some type of conflict, then the students with disabilities suffer; however, when co-teachers are compatible, then the success of students with disabilities is usually positive. In an effort to improve co-teaching environments, further research could provide insight to co-teaching strategies for implementation in these types of classrooms (Mastropieri et al., 2005).

Purpose Statement

The purpose of this multi-case study was to examine the instructional practices of successful inclusion co-teaching partnerships in the academic areas of mathematics and

literature/composition in central Georgia high school classrooms. The success of the co-teaching partnerships was determined by the percentage of students with disabilities who passed Georgia's standardized tests in mathematics and language arts/composition—according to the 2012 and 2013 testing results—being higher than the state's percentage of students with disabilities who passed the Georgia's standardized tests in mathematics and language arts/composition. In addition, the success of the co-teaching partnerships was determined by the co-teachers working in a co-teaching partnership for at least one year, possessing a shared educational philosophy, having clear plans and procedures, and having administrative support (Friend, 2008a). The intent was to discover co-teaching approaches and instructional practices that would be useful for other academic co-teachers at the high school level. The success of co-teaching partnerships can contribute to academic success for both special education and general education students. For the purposes of this study, co-teaching was generally defined as one special education teacher and one general education teacher working together in a classroom to provide instruction to both special education and general education students by jointly planning, instructing, and assessing the students. The findings from this study will add to the fundamental knowledge of co-teaching practices.

Significance of the Study

The results from this study will be used to incorporate co-teaching approaches and instructional practices that will improve co-teaching academic environments within high schools. Vygotsky's (1978) theories of cognitive development and Bandura's (1986) social cognitive theory suggest that children's cognitive growth increases when they are stimulated by social interactions. The co-teaching environment provides the social interaction needed to obtain that goal. The findings from this study show the approaches and practices high school

literature/composition and mathematics teachers utilize to ensure social interaction between the teachers and students and between the students themselves.

The results of this study will also be beneficial to school administrators as they implement co-teaching models in academic classrooms in their schools. The findings from this study will be used to construct training seminars for current and potential high school academic co-teachers. Schutz (1958, 1966, 1984, 1994, 2009) explained the importance of interpersonally compatible groups. The findings from this study show what co-teachers perceive as the secrets to their success, both academically and interpersonally. The co-teachers will be able to use what they learn from the seminars to plan successful instructional strategies for their co-taught classrooms and determine which instructional co-teaching approach would be best for their compatibility and skill level. The impact of successful inclusion co-teaching classrooms will be beneficial to the academic performance of students with disabilities as well as the academic performance of the general education population (Rice, Drame, Owen, & Frattura, 2007; Simmons & Magiera, 2007).

Research Questions

The purpose of this qualitative multi-case study was to identify successful co-teaching approaches and instructional practices used by co-teachers at the high school level. The following questions helped focus the study on which co-teaching approaches and practices were successful at the high school level and guided this study:

1. How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level?

Answers to this question can be used to help support future co-teachers' implementation of successful co-teaching approaches at the high school level. Co-teachers can enhance their

program through the refinement and development of their understanding of the co-teaching concept and the instructional paths they pursue (Friend, 2008a).

2. What specific practices are implemented in co-taught classrooms at the high school level?

"The success of co-teaching rests upon both partners blending their instructional expertise and interpersonal skills" (Conderman, Bresnahan, & Pedersen, 2009, p. 17). The instructional practices developed and identified as successful by the participants in this study can be shared with other co-teaching partnerships to improve their instructional practices.

3. What roles are assumed by each teacher participating in the co-teaching partnership?

Answers to this research question assisted in identifying the specific roles teachers assume while delivering instruction, and what works best in specific content areas at the high school level. Conderman, Bresnahan, and Pedersen (2009) stated, "both professionals are meaningfully involved in the delivery of instruction, and instruction reflects recommended practices in the field" (p. 2).

4. What do high school content area co-teachers attribute to their success as partners and instructors?

There is a need to understand how co-teaching partnerships work "in classrooms, across grade levels, and content areas" (Bouck, 2007, p. 50). This question addressed the need to understand how partnerships work in specific content areas at the high school level provided answers to what co-teachers identified as successful in their specific content areas.

Research Plan

I chose to use a qualitative multi-case study in order to investigate the co-teaching approaches and instructional practices of teaching partnerships in authentic co-teaching

situations. Stake (2006) stated, "the study of situations reveals *experiential knowledge*, which is important to understanding the quintain" (p. 12). A quintain "is an object or phenomenon or condition to be studied—a target but not a bull's eye. In multicase study, it is the target collection" (Stake, 2006, p. 6). A multi-case study allowed research to be conducted through individual in-depth interviews and observations. For the purposes of this study, a case study was defined as the following:

1. A case study is an empirical inquiry that

   - investigates a contemporary phenomenon in depth and within its real-life context, especially when

   - the boundaries between phenomenon and context are not clearly evident. (Yin, 2009, p. 18)

2. The case study inquiry

   - copes with the technically distinctive situation in which there will be many more variables of interest than data points and as one result

   - relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result

   - benefits from the prior development of theoretical propositions to guide data collection and analysis. (Yin, 2009, p. 18)

In order to provide diversity and balance to the study, I chose a multi-case study over a single-case study. A multi-case study allows research to be conducted in more than one environment revealing more experiences of the participants of the study (Stake, 2006).

This multi-case study was conducted at three high schools located within one school district in the central Georgia area and included one or two co-teaching pairs consisting of one

general education teacher and one special education teacher from each school, who worked together in one of the academic areas of mathematics or literature/composition. As I began this study, I intended to conduct the study at a total of five high schools in the district with at least one pair of co-teachers from each school; however, two of the high schools did not qualify because they no longer had the pairs of co-teachers who fit the criteria for this study. Creswell (2007) stated that the cases to be studied need to be "representative" of the focus of the study (p. 74). In order to procure the participants that would be representative of the focus of the study, I relied on the assistance of the Director of Student Services within the school district. The selection of the co-teaching partnerships used in this study was determined by the Director of Student Services and when she chose the qualifying participants, the selection was limited to three high schools with a total of five pairs of co-teaching partners. The selection was limited to three high schools due to (a) co-teaching partners at two of the schools not qualifying because they did not meet the criteria of their percentage of students with disabilities passing standardized tests being higher than the percentage of the state's students with disabilities passing standardized tests and (b) the co-teachers at two of the schools had not been in a co-teaching relationship for at least one year. In order to assist in generalizing the findings of my study, the Director of Student Services had to extend the parameters of my study by choosing (a) one pair of co-teachers who no longer teach together (one went into administration) but was successful during the one year they taught together, (b) one pair of co-teachers who began teaching together at the beginning of this school year but were successful in past co-teaching partnerships, and (c) one pair of co-teachers who are no longer teaching together because one teacher moved to another school district but they were successful during the five years they taught together. According to Yin (2009), five pairs of co-teachers were sufficient for a multi-case study to be

conducted. For confidentiality purposes, the school district was identified with the pseudonym Gibson County throughout this study.

I used a linear-analytic structure to build this study. Yin (2006) suggested the linear-analytic structure as common for research composition as it covers "the methods used, the findings from the data collected and analyzed, and the conclusions and implications from the findings" (p. 176). This proposed multi-case study concentrated on co-teaching experiences through focus group interviews, in-depth individual interviews, and observational data. Open-ended and in-depth interviews provided rich data during the early stages of the study. According to Corbin and Strauss (2008), keeping an open mind and using a semi-structured interview will supply more accurate and extensive data that describes each participant's experiences within the co-teaching setting. I observed the co-teachers in their co-teaching environments, their interactions with each other, and the dialogue between the teachers and students. I collected data from the observations and interviews, and as data was collected, I developed theoretical analyses at the beginning stages and throughout the different stages of the study. I used qualitative coding to sort and categorize the data from the start of the project. According to Charmaz (2006), coding is a way to categorize data into related segments to compare with other segmented data. I wrote memos (preliminary notes) to assist in categorizing analytic categories. As Charmaz (2006) explained, as the study progresses, the coding becomes more focused, the categories are refined, and theoretical concepts emerge. I composed descriptive narratives to convey the experiences observed (Merriam, 2009). To validate findings of this study, I utilized a triangulation procedure by conducting focus group interviews with each co-teaching pair, individual interviews with each teacher, and observations of three of the co-teaching pairs

(Creswell, 2007; Merriam, 2009; Stake, 2006). A summary and discussion of the findings concluded my study.

Delimitations

Delimitations of a study are boundaries set by demographic components (McMillan & Schumacher, 2006). The delimitating variables in this study were identified as central Georgia, high school, successful co-teaching partnerships, and the academic areas of mathematics and literature/composition. Successful co-teaching partnerships were defined by the passing rate percentages of students with disabilities in the co-teaching classes being higher than the passing rate percentages of students with disabilities at the state level. In addition, the following criteria was used for determining successful co-teaching partnerships: each partnership consisted of one general education and one special education teacher, the co-teachers had been in a co-teaching relationship for at least one year, and their co-teaching relationship was determined successful by the shared philosophy, prerequisites, collaboration, clear plans and procedures, and the supportive context of the co-teaching partners (Friend, 2008a). To assist in identifying successful co-teaching partnerships, I procured the assistance of the Director of Student Services within the Gibson County school district in a central Georgia location. I provided the Director of Student Services with the aforementioned criteria for determining successful co-teaching partnerships.

Definitions

1. *Differentiated instruction* – "is a learner-centered instructional design model that acknowledges that students have individual learning styles, motivation, abilities, and, therefore, readiness to learn" (Bush, 2006, p. 43)

2. *Inclusion* – "involves educating each student with a special education need in the school, and when appropriate, the class the student would have attended if he or she did not have a disability" (Lomabardi & Woodrum, 1999, p. 174).

3. *Intrinsic Study* – is a case study that focuses on the case itself (Stake, 2006).

4. *Least Restrictive Environment (LRE)* – is to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aides and services cannot be achieved satisfactorily. (Individuals with Disabilities Education Act, 1990)

5. *Qualitative Research* – inquiry that is grounded in the assumption that individuals construct social reality in the form of meanings and interpretations, and that these constructions tend to be transitory and situational. The dominant methodology is to discover these meanings and interpretations by studying cases intensively in natural settings and by subjecting the resulting data to analytic induction. (Gall, Gall, & Borg, 2007, p. 650)

6. *Zone of Proximal Development* –"the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p.86).

Summary

In order to comply with legislative actions designed to improve the quality of education and resultant test scores of special education students, schools began moving students with disabilities from resource classrooms into general education classroom settings. The goal was to improve the instructional quality that special education students received by moving these students into classrooms taught by highly qualified general education teachers. Special education teachers would form a co-teaching partnership in these classrooms with the goal of improving academic success for both special education and general education students.

I completed a qualitative multi-case study that would examine successful co-teaching partnerships in the academic areas of mathematics and literature/composition in central Georgia high school classrooms in order to identify which practices and approaches are used by successful inclusion co-teaching partnerships. The data centered on the instructional practices and approaches of the co-teaching model and was collected through group and individual interviews and classroom observations. The findings of this study will be useful in improving student success in all co-teaching classrooms by providing examples of co-teaching approaches and instructional practices of successful co-teaching partnerships.

CHAPTER TWO: LITERATURE REVIEW

Overview

Over the past several years, the shift in special education from classrooms in the special education environment to inclusive classrooms in the general education environment has increased (Murawski, 2009; Murawski & Lochner, 2011). In order to comply with federal legislation and provide opportunities for students with disabilities to receive education among their general education peers, public school administrators are increasingly implementing the practice of inclusion through the co-teaching model (Conderman, Bresnahan, & Pedersen, 2009). Special education students are placed into a general education classroom that has a general education and special education teacher. These teachers, who may or may not have been formally trained in co-teaching, find themselves working together to produce a classroom setting beneficial to special and general education students alike. The success of these students will largely and directly depend on the success of the inclusionary co-teaching approaches and practices used by these partnered teachers. Without guidance, teachers will be forced to find the approaches which work best in their content area by trial and error; however, having knowledge of what other co-teachers identified as the best co-teaching approaches in their specific content areas would save valuable instructional time from being wasted.

The literature review focuses on the roots of the co-teaching model and on the various instructional approaches utilized in the co-teaching model. The discussion begins with an explanation of the theoretical framework based on the theories of Lev Vygotsky (1978), Albert Bandura (1986), and William Schutz (1958). Next, I will provide an historical background of special education services including the impact of federal mandates upon the provision of those services causing the implementation of the inclusionary co-teaching model. Inclusion and co-

teaching will be defined and discussed followed by an explanation of the benefits and challenges

of co-teaching. Next, the various approaches of co-teaching will be explained, illustrated, and

critiqued. I will then address co-teaching in the specific content areas of mathematics and

literature/composition. The literature review will conclude with a summary that will discuss the

gaps in existing literature, the need for this study, and the importance of this study for the

educational community.

Theoretical Framework

The theoretical framework of this study is based on Vygotsky's (1978) theories of

cognitive development, Bandura's (1986) social cognitive theory, and Schutz's (1958, 1966,

1984, 2009) fundamental interpersonal relations orientation – behavior theory. The influence of

two skilled teachers working together in the same classroom provides an abundance of

interaction between the teachers and each student (Conderman, Bresnahan, & Pedersen, 2009).

Because social interactions stimulate developmental processes and cognitive growth, Vygotsky's

(1978) socio-cultural theory stressed the connection between cultural-historical and interpersonal

determinants. The interactions between the teachers and students are significant components in

students' cognitive growth; however, another considerable significant factor is the working

relationship between the teachers (Friend, 2008b; Murawski, 2009). Schutz (1958, 1966, 1984,

1994, 2009) explained that interpersonally compatible groups will be more successful.

Cognitive Development

The major theme of Vygotsky's (1978) socio-cultural theory was that individual

cognitive development relies heavily on social interaction. The culture in which one lives makes

a strong impact on the cognitive development of that individual. The culture may involve

parents, teachers, or peers. Vygotsky (1978) explained that children learn on two levels—
interaction with others and integration into one's mind. Vygotsky (1978) stated:

> Every function in the child's cultural development appears twice: first, on the social
> level, and later on the individual level: first, *between* people (*interpsychological*), and
> then *inside* the child (*intrapsychological*). This applies equally to voluntary attention, to
> logical memory, and to the formation of concepts. All the higher functions originate as
> actual relations between human individuals. (p. 57)

Vygotsky (1978) explained that when adults or peers help children with their learning, it
may lead to a better measure of potential than when the children try to learn on their own. This
is known as the zone of proximal development and is defined as, "the distance between the
actual developmental level as determined by independent problem solving and the level of
potential development as determined through problem solving under adult guidance or in
collaboration with more capable peers" (Vygotsky, 1978, p. 86). Vygotsky (1978) further
explained that although the desired mental developmental level has not yet appeared in children
needing assistance, the assistance will allow the children to reach the level of desired
development, and eventually the children will be able to reach their level on their own. More
experienced peers and teachers can provide the assistance needed to help a struggling student
understand the concepts being learned. The resultant social interaction will increase
developmental processes and cognitive growth.

Vygotsky's (1978) theory implied that the cognitive development of children depends on
cultural tools offered by the social interaction from skilled teachers and more competent peers.
In addition to Vygotsky's theory, Tomasello, Kruger, and Ratner (1993) defined three cultural
tools necessary to the cognitive development of children. The first cultural tool is imitation. The

students will imitate what the teachers or peers are doing (Tomasello et al., 1993). Co-teaching classrooms where both teachers are significantly engaged in the delivery of instruction provide more ways for students to imitate what they learn (Conderman, Bresnahan, & Pedersen, 2009). The second cultural tool involves the recall of the teachers' instructions and the use of those instructions to independently follow the instructions. The third cultural tool is collaborative learning that is obtained through peer tutoring (Tomasello et al., 1993). Vygotsky (1978) implied that students should be placed in learning environments that provide an abundance of rich social interactions with teachers and more capable peers.

Similar to Vygotsky's (1978) socio-cultural theory is Bandura's (1986) social cognitive theory. Bandura (1986) believed that the most important learning is conveyed through social interaction with those who are more knowledgeable. Bandura (1986) suggested that if children were left to gain knowledge on their own, their learning would be hindered. Much of what children learn is through observation and demonstrative modeling. Bandura and Barbaranelli (1996) also suggested that children's academic achievement is affected by self-efficacy. Children's self-efficacy, cognitive learning, and retention are increased when they are engaged and motivated through interaction and approval from peers and teachers. Bandura's (1986) social cognitive theory advocates social incentives such as the provision of positive feedback and the close feeling associated with community.

The power of a co-teaching environment is beneficial to student learning (Friend, 2008a; van Garderen, Scheuermann, Jackson, & Hampton, 2009). Co-teaching environments provide the valuable social interactions needed for children with disabilities and their peers without disabilities, as well as the interactions provided by the opportunity of having at least two teachers available (Conderman, Bresnahan, & Pedersen, 2009; Murawski, 2009). The students are able to

capitalize on the expertise and knowledge of their peers and teachers (Villa et al., 2013). In this

setting the teachers and peers can model behaviors and instructions for a student who may have

difficulty, but desires to understand the behaviors and instructions. With proper interaction, the

student will then internalize what has been learned. Vygotsky (1978) explained that:

> An essential feature of learning is that it creates the zone of proximal development; that
>
> is, learning awakens a variety of internal developmental processes that are able to operate
>
> only when the child is interacting with people in his environment and in cooperation with
>
> his peers. Once these processes are internalized, they become part of the child's
>
> independent developmental achievement. (p. 90)

By providing student-to-teacher social interactions and dialogue between the students as well as

between the teachers and students, the co-teaching model provides an ideal environment for

fostering these internal developmental processes.

Working Relationships

Equally important to the interactions between the teachers and the students is the

interactions between the co-teaching partners in their working relationship (Friend, 2008b;

Murawski, 2009; Villa et al., 2013). Schutz (1958) researched how people work together most

productively and functionally. His research influenced the fundamental interpersonal relations

orientation (FIRO) theory. FIRO is a theory of interpersonal needs involving inclusion, control,

and affection. The interpersonal need for inclusion indicates the inner drive to be included in a

group—a sense of belonging and interaction. The interpersonal need for control indicates the

inner drive for power and influence in respect to control. The interpersonal need for affection

indicates the inner desire to have satisfactory relationships or friendships with others. It is

important to note that inclusion, control, and affection can go in two different directions.

Inclusion can be the desire to be included or to make others feel included, control can be the desire to have control or to be controlled, and affection can be the need of friendship given to or received from others (Schutz, 1958).

Friend (2008a) explained that in a co-teaching relationship, the partners need supportive personal qualities and the ability to share control in the relationship. Schutz (1958) defined the interpersonal need for inclusion "as the need to establish and maintain a satisfactory relation with people with respect to interaction and association" (p. 18). Schutz (1958) then defined the interpersonal need for control "as the need to establish and maintain a satisfactory relation with people with respect to control and power" (p. 18). Schutz's (1958) original FIRO theory included the area of affection that he defined "as the need to establish and maintain a satisfactory relation with others with respect to love and affection" (p. 20). In order to fit more easily into working relationships, Schutz (1994) adapted the affection postulate into an openness postulate. Openness is defined as the extent to which individuals are willing to be open with others (Schutz, 1994). A balance of inclusion, control, and openness are needed in the cooperative processes of co-teaching. Villa et al. (2013) explained that certain interpersonal skills are needed to guarantee a successful co-teaching relationship—"verbal and nonverbal components of trust, trust building, conflict management, and creative problem solving" (p. 9). They further explained that the co-teachers will be executing interpersonal skills on different levels according to their prior training, knowledge of curriculum, personality, communication styles, and openness of providing feedback (Villa et al., 2013).

Summary of Theoretical Framework

The research gathered from this study will relate to Vygotsky's (1978) socio-cultural theory, Bandura's (1986) social cognitive theory, and Schutz's (1958, 1994) interpersonal

behavior theory. The co-teaching model provides more student interaction with teachers and peers, and the increased interaction affects the cognitive development of children. The approaches in the co-teaching model provide varying amounts of student-teacher interaction and peer interaction increasing the opportunity for higher cognitive development of all children involved. The co-teaching model also provides opportunities for teacher-to-teacher interaction through the different co-teaching model approaches and provides venues for teachers to build their interpersonal skills, increasing the opportunity for productive and successful co-teaching relationships. In order to identify what constitutes successful co-teaching practices, further research is needed to examine teacher-student interactions, co-teaching relationships, and the co-teaching approaches utilized in co-teaching environments (Bouck, 2007; Gürür & Uzuner, 2010; Hang & Rebren, 2009). In addition, Hang and Rabren (2009) stated that "future research studies should be conducted to determine if there are differences in other practices of co-teaching and what teachers perceive their co-teaching practices to be" (p. 267).

Review of the Literature

A paradigm shift in the educational model for students with disabilities has emerged through the introduction of inclusionary practices in school systems across the country. The shift occurred in order to meet federal mandates to improve the quality of education for all students with disabilities. According to Friend and Bursuck (2012), "one of the most important concepts" to grasp is the least restrictive environment (LRE) which allows students with disabilities to receive education with appropriate supports along with their peers without disabilities (p. 5). One inclusionary model that falls into the LRE category is the co-teaching model that allows students with disabilities to interact with their peers without disabilities in the general education environment, while having the support of special education services (Fattig & Taylor, 2008;

Murawski, 2009). The co-teaching model has increasingly become popular in school systems as a means of providing inclusionary practices (Friend & Bursuck, 2012).

Historical Background

School systems have provided special education services to students with disabilities for over half a century (National Dissemination Center for Children with Disabilities, 2009). The history of special education can be traced through the enactment of federal legislation in education. Before special education services began, early federal efforts in the 1800's included institutions for the deaf and minimal educational programs for the blind. Little else was done by the government until public improvements to education in the 1950's and 1960's. In 1958, the National Defense Education Act (NDEA) implemented programs for the improvement of instruction in the content areas of mathematics and science. Later that same year, the NDEA (1958) prompted Public Law 85-926 to provide funds for teacher training in instruction for the mentally disabled. In 1963, Public Law 85-926 broadened to include other disabilities (Martin, Martin, & Terman, 1996). Although great strides were made to improve the education of students with disabilities, the implementation of services were most often provided through separate schools. Schiller and O'Reilly (2003) stated "twenty-five years ago, children with disabilities were routinely denied access to public schools—80 percent were placed in institutions or separate facilities where they frequently received little schooling" (p. 1).

Over time, federal legislation helped to change the instructional model for special education students (Dukes & Lamar-Dukes, 2009). In 1975, congress enacted the Education for all Handicapped Children Act (Public Law 94-142) and amended the act in 1997 renaming it the Individuals with Disabilities Act (Individuals with Disabilities Education Act, 1990). The legislation called for the protection of students with disabilities and offered a free and

appropriate education to all children (Byrnes, 2009). In particular, IDEA determines which students are eligible for special education consideration through one or more of 13 specific disability categories (McLaughlin & Rhim, 2007). Under IDEA, students have "the right to a free and appropriate public education in the least restrictive environment to be defined through an Individualized Education Program (IEP)" (McLaughlin & Rhim, 2007, p. 30). Each special education student's IEP committee team identifies the least restrictive environment for the individual student. The least restrictive environment is defined as follows:

> To the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are educated with children who are not disabled, and special classes, separate schooling, or other removal of children with disabilities from the regular educational environment occurs only when the nature or severity of the disability of a child is such that education in regular classes with the use of supplementary aides and services cannot be achieved satisfactorily. (Individuals with Disabilities Education Act, 1990).

The students with disabilities are then served through their specific IEP's and should receive their services through regular classrooms whenever it is appropriate (Martin et al., 1996). IEP's are determined by each special education student's specific needs including educational goals, instructional accommodations and modifications, and related services (McLaughlin & Rhim, 2007). Kozik, Cooney, Vinciguerra, Gradel, and Black (2009) suggested that "since IDEA (1997) defined least restrictive environment and encouraged special education within the general education context, fewer students with special needs are educated in segregated settings, and more inclusive opportunities exist" (p. 78). In 2004, the reauthorization of IDEA opened the door for the No Child Left Behind Act (NCLB, 2001) that required school accountability for the

performance of all students, the quality of teachers, and the utilization of research-based instruction (Byrnes, 2009). The requirements of NCLB for teachers to be highly-qualified called for teachers to hold certificates in the specific content areas they teach. This legislation created significant problems for special educators who were not certified in their specific content areas (Simmons, Carpenter, Dyal, Austin, & Shumack, 2012). Co-teaching environments provided a solution to those problems by combining highly-qualified general education teachers who were certified in content areas and special education teachers who were certified to support students with disabilities (Carpenter & Dyal, 2007; Wilson, 2008). As a result of NCLB legislation, at least half of the special education population participates in the general education environment for at least 80% of the school day (Data Accountability Center, 2007).

Although legislation helped integrate children with disabilities into the same schools as their peers without disabilities, the segregation of students with disabilities was still evident within the schools. Special education services were mostly restricted to special education settings—self-contained and resource classrooms (Friend et al., 2010). Traditionally, self-contained classrooms usually had special education students for small group instruction for more than half a day in non-elective academic areas (Matison, 2011). Self-contained classrooms were designed to "provide more focused academic and behavioral supports" (Maggin, Wehby, Partin, Robertson, & Oliver, 2011, p. 84). Resource classrooms are special education classrooms where students with disabilities can receive additional assistance outside of general education classrooms (Levenson, 2011). Over the years, studies have indicated that students with disabilities receiving services in resource classrooms have received inadequate instruction in content areas—possibly due to lower expectations and lower level curricula (Byrnes, 2009; Rea, McLaughlin, Walther-Thomas, 2002). In a sense, special education was disjointed from general

education causing the emergence of two separate educational systems (Byrnes, 2009).

Regardless of the educational setting, federal legislation's No Child Left Behind (NCLB, 2001)

requires all students to take state standardized tests, creating an increased accountability of

educators for student success.

Inclusion and Co-Teaching

Since the reauthorization of IDEA (2004) and the need to meet federal mandates for least

restrictive environment, a rapid shift occurred in the way school systems provide services from

small group classrooms to inclusive classrooms (Bouck, 2007; Friend et al., 2010). Inclusive

classrooms provide an avenue for students with disabilities to receive their education with their

non-disabled peers. One common inclusive practice is the co-teaching model in which both the

special education teacher and the general education teacher combine their efforts to instruct all

students—those with disabilities and those without disabilities—together (Dettmer, Thurston,

Knackendoffel, & Dyck, 2008; Solis, Vaughn, Swanson, & McCulley, 2012). The co-teaching

model actually originated in the general education setting where two or more general educators

worked together to provide instruction to students. Built on this original co-teaching model, the

concept of a special education teacher and a general education teacher working together emerged

in the late 1980s (Dieker & Murawski, 2003).

In 1986, Secretary of Education Madeline Will recommended the Regular Education

Initiative (REI) proposing inclusion of special education students into the general education

setting by merging special and general education (Santoli, Sachs, Romey, & McClurg, 2008).

NCLB (2001) called for more accountability for all children, required teachers to be highly-

qualified, and held schools accountable for proving Adequate Yearly Progress (AYP)

accountability (Hall, Wiener, & Carey, 2003). IDEA (2004) stressed the importance of students

with disabilities to have access to general education curriculum along with their peers. Knight (1999) championed the inclusion (co-teaching) philosophy when he suggested "that there not be a range of placements, but rather all students be educated with their peers in the same physical location" (p. 3). The co-teaching inclusionary model makes it possible for special education students to receive specialized instruction while having access to the same curriculum as that of their peers in the same physical location (Friend et al., 2010). McDuffie, Landrum, & Gelman (2008) pointed out that having two teachers in the classroom supports more individualized instruction and increased classroom management. Students with disabilities are not the only ones who benefit from the support of two teachers in the classroom. Students within the general education population who struggle to learn but do not qualify for special education services also reap the benefits of the co-teaching environment which provides various instructional strategies and differentiated instruction offered by the expertise of the special education teacher (Murawski & Hughes, 2009). Teachers benefit from the co-teaching experience also—special education teachers gain content knowledge and general education teachers expand instructional strategy skills (Rice et al., 2007).

Definition of Co-Teaching

Friend et al. (2010) suggested that to conduct research on co-teaching "first, researchers must be sure that co-teaching is clearly defined in order to ensure a general level of comparability of services" (p.21). Friend (2008a) defined co-teaching as a means through which students with disabilities receive some or all of their specialized instruction and related services form both a general education teacher and a special education teacher within the general education classroom. Schools are able to meet the demands of IDEA (2004) by placing special education teachers in general education classrooms with teachers who are highly-qualified in

content areas. Each teacher brings an area of expertise into the classroom and shares it with the other teacher, and this exchange of knowledge increases the teaching skills and classroom wisdom of each teacher (Austin, 2001; Bouck, 2007; Ferguson & Wilson, 2011). Kloo and Zigmond (2008) defined co-teaching as a "special education service-delivery model in which two certified teachers—one general educator and one special educator—share responsibility for planning, delivering, and evaluating instruction for a diverse group of students, some of whom are students with disabilities" (p. 13). Conderman, Johnston-Rodriguez, and Hartman (2009) summed up co-teaching as allowing "equal partners to blend their expertise to support the learning of each student in the general education classroom" (p. 14). Hepner and Newman (2010) explained that "co-teaching is an educational model that provides support to students with learning disabilities and also provides opportunities for high-performing students to be academically challenged" (p. 67).

Benefits of Co-Teaching

In an effort to combine content knowledge from general education teachers and differentiation knowledge from special education teachers, the concept of co-teaching evolved through collaborative partnerships between professionals (Bauwens, Hourcade, & Friend, 1989). Because co-teaching environments provide access to general education, rigorous curriculum, and quality instruction for special education students through the partnerships of highly-qualified content teachers and highly-qualified special education teachers, co-teaching has become an increasingly widespread approach for providing special education services in inclusive environments (Conderman & Hedin, 2012; Fenty & McDuffie-Landrum, 2011). Co-teaching placements are proving to be beneficial environments for special education students, special education teachers, and general education teachers (Friend, 2008a; Villa, Thousand, & Nevin,

2013). Friend (2008b) suggested "the tremendous potential of co-teaching to enable students with disabilities and other special needs to access the same curriculum as their peers and achieve equally high standards makes the effort eminently worthwhile" (p. 17). Students with disabilities are not the only learners to benefit from the co-teaching model. Because of the enrichment of lessons through the collaboration of two teachers, general education students benefit from the co-teaching classroom as well as the special education students (Hunt, 2010; Obiakor, Harris, Mutua, Rotatori, & Algozzine, 2012). Some of the benefits that the students receive are improved instruction, differentiated instruction, teacher access, and support for any low achieving students who are unidentified for special education services (Beninghof, 2012).

Students with disabilities who were receiving services in co-taught environments had better testing scores, higher attendance, and less behavior problems when compared with students with disabilities receiving instruction in resource or self-contained small group settings (Cramer, Liston, Nevin & Thousand, 2010; Dieker & Murawski, 2003; Rea et al., 2002; Villa, Thousand, Nevin, & Liston, 2005). A research study by Goddard, Goddard, and Tschannen-Moran (2007), reported positive results in student achievement using evidence from standardized assessments that showed a "statistically significant relationship between teacher collaboration and student achievement' (p. 891). Villa, Thousand, and Nevin (2013) provided training to co-teachers in a Colorado high school and reported positive results. When compared with single teacher classrooms, the content grades of students with and without disabilities in co-taught classrooms were higher in all four academic areas—math, language arts, social studies, and science (Villa et al., 2012).

The benefits of co-teaching also produce positive results for teachers. According to Villa et al. (2013), "co-teachers themselves identified an exchange of skills, resulting in increased

competence in their colleague's respective areas of expertise (e.g., content mastery, classroom management, curricular adaptation)" (p. 14). By combining the expertise of each co-teaching partner, the co-teaching model serves as an inspiration for generating new instructional strategies and offers new perspectives on classroom management strategies (Conderman, Johnston-Rodriguez, & Hartman, 2009; Friend, 2008a). Ferguson and Wilson (2011) explained, "by working together, teachers increase their opportunities to observe, practice, and learn from the experiences in the classroom and each other" (p. 54). Co-teaching reduces the feeling of isolation by the shared responsibilities and social interaction of two teachers working together (Fattig & Taylor, 2008; Isherwood & Barger-Anderson, 2008; Villa et al., 2013). The shared responsibilities of co-teachers may include lesson planning, student assessment, and the accommodation or modification of lessons, activities, and assessments (Vannest, Hagan-Burke, Parker, & Soares, 2011). Co-teaching offers a lower student-to-teacher ratio that provides the teachers more time for the provision of individualized attention and the ability to meet the diverse needs of the students (Ferguson & Wilson, 2011; Villa et al., 2013).

Challenges of Co-Teaching

Although co-teaching at the elementary level has demonstrated successful results, co-teaching at the high school level presents more challenges. According to Simmons et al. (2012), "effective inclusion programs for students with disabilities require a culture of collaboration as both special education and general education teachers face a myriad of issues as they implement quality inclusion within the secondary environment" (p. 754). The challenges faced by co-teaching partners are attributed to higher level content and pace, higher expectations, high-stakes testing, lack of planning time and professional development, lack of administrative support, and inadequate preparation (Friend, 2008a; Kozik et al., 2009). Regardless of the challenges, co-

teaching is increasingly becoming a common method of inclusion at the high school level (Dieker & Murawski, 2003). Because more schools are implementing co-teaching models, it is important for co-teachers to be able to build successful and cooperative relationships (Bouck, 2007; Conderman, 2011; Hudson, Miller, & Butler, 2006; Kloo & Zigmond, 2008). However, differences in each teacher's educational philosophy regarding the method of delivery of instruction may cause challenges between the co-teachers (Ferguson & Wilson, 2011; Hudson et al., 2006). It is crucial for co-teachers to be able to communicate and agree on available accommodations, possible curricular modifications, and how instruction will be provided to students with disabilities in the co-taught classroom (Conderman, 2011; Fennell, 2007). The co-teaching partners should identify areas of strength, expertise, individual responsibilities, regular planning times, and communication preferences of each (Conderman, Johnston-Rodriguez, & Hartman, 2009; Ferguson & Wilson, 2011; Gürür & Uzuner, 2010; Ploessl, Rock, Schoenfield, & Blanks, 2010). In addition, the co-teachers will need to identify and mutually embrace research-based instructional practices (van Garderen et al., 2009).

Even more crucial, in the relationship of co-teaching partners, is the need for social compatibility between the special education and general education teacher (Keefe & Moore, 2004; Scruggs et al., 2007). To emphasize the close working relationship between co-teachers, Murawski (2009) astutely referred to co-teaching as a marriage between two educational professionals. To be successful, co-teaching demands parity, mutual respect, specific mutual goals, shared accountability for outcomes, and shared resources, responsibilities, planning, classroom management, and delivery of instruction (Carpenter & Dyal, 2007; Murawski & Dieker, 2008; Conderman, Johnston-Rodriguez, & Hartman, 2009). Isherwood and Barger-Anderson (2008) suggested that:

Some of the identifiable factors associated with successful co-teaching implementation

and adoption included interpersonal communication skills, administrative support,

familiarity with curriculum, involvement in the planning of the initiative on behalf of the

teachers, a common philosophy on classroom instruction and management, and

identification of roles and responsibilities in the co-teaching relationship. (p. 126)

In order to be successful, the co-teaching partnership needs to be cultivated to create a

strong and long-lasting relationship (Keefe & Moore, 2004; Sileo, 2011). If the co-teaching

partnership is not working and tension is felt throughout the classroom, this tension can have

negative effects on the outcome of student success, creating an additional challenge for students

with disabilities (Mastropieri et al., 2005). To avoid tension that could lead to "separation, or

even divorce", Murawski and Dieker (2004) suggested that administrators carefully determine

the compatibility of each teacher before assigning the partnership. To ensure successful working

relationships, administrators should also provide appropriate planning time, professional

development, and school-wide support for co-teaching partnerships (Pugach & Winn, 2011;

Sutton, Jones, & White, 2008). However, Murawski (2009) suggested that administrators are not

providing the means for co-teaching arrangements to be successful. In a study of 24 school

districts, Nichols, Dowdy, and Nichols (2010) found evidence suggesting that teachers are

unprepared for co-teaching partnerships and that co-teaching is implemented to meet federal

mandates instead of providing quality instruction to the students. Murawski (2012) also found

that many co-teachers have difficulty finding sufficient time to collaborate with each other.

Another challenge in co-teaching classrooms is a common attitude of teachers regarding

special education students. Although teachers follow the accommodations outlined in students'

IEP's, the teachers may have doubts concerning whether special education students will be able

to master the general education curriculum content (Santoli et al., 2008). To be successful, students should receive positive expectations from teachers (Henning & Mitchell, 2002). This is especially true with special education students. If teachers do not believe students will master the course content then the utilization of accommodations is meaningless and the practice of inclusion is worthless (Santoli et al., 2008).

Additionally, there is some research suggesting that there is no significant difference in testing scores of students with disabilities receiving instruction in the co-taught classroom when compared with students with disabilities receiving instruction in the resource classroom. Packard, Hazelkorn, Harris, and McLeod (2011) conducted a study with ninth grade students who have learning disabilities and found no significant difference between the scores on standardized literature tests when comparing resource classrooms to co-taught classrooms. However, Packard et al. (2011) found that the students with learning disabilities receiving instruction in the resource room actually scored higher—although not significantly—on the standardized literature tests when compared to receiving instruction in the co-taught classroom. Studies conducted by Mote (2010) and Nash-Aurand (2013) produced similar results to Packard, et al. (2011) suggesting that placement of students with disabilities in resource classrooms or co-taught classrooms have little effect on the outcome of student achievement in reading and mathematics. Zigmond (2003) stated that "effective teaching strategies and an individualized approach are the more critical ingredients in special education, and neither of these is associated solely with one particular environment" (p. 198). The challenge then, is to find the most successful approaches and practices to implement into the mandated co-teaching environments. According to Lloyd, Forness, and Kavale (1998),

Students with disabilities need the most effective instruction we can muster. We

certainly want to tailor educational programs for students with disabilities to meet their

unique educational needs. As we do so, it makes sense to incorporate those methods that

have the best chances of providing educational benefits. (p. 199)

Co-Teaching Approaches

Co-teaching partners generally rely on one or more of the existing co-teaching model

approaches. Friend (2008a) identified six co-teaching approaches as one teach/one observe,

station teaching, parallel teaching, alternative teaching, teaming, and one teach/one assist.

Conderman, Bresnahan, and Pedersen (2009) identified similar approaches—one teach/one

observe, one teach/one drift, parallel teaching, alternative teaching, and team teaching.

Murawski (2009) condenses the approaches to five: one teach/one support, parallel teaching,

station teaching, alternative teaching, and team teaching. Villa et al. (2013) further condensed

the approaches to four: supportive, parallel, complementary, and team-teaching. Although

specific co-teaching approaches have been identified with various titles, they can be divided into

six different groups by matching similar characteristics.

One Teach/One Observe

In the one teach/one observe co-teaching approach, one teacher delivers instruction to the

students while the other teacher gathers data by observing both the general education and the

special education students. This approach is used when information is needed concerning

student behaviors and participation, or if some type of situation needs to be addressed (Friend,

2008a; Conderman, Bresnahan, & Pedersen, 2009). Friend (2008a) suggested that the one

teach/one observe approach should only be used occasionally. A benefit of the one teach/one

observe approach is the availability of two teachers providing opportunities to gather valuable

observational data about the students' behavior and participation that one teacher could not do alone (Conderman, Bresnahan, & Pedersen, 2009). The rich data provided from the observations could be used to identify students' learning needs and ultimately aid in the advancement of student achievement. The challenges of the one teach/one observe approach are the uncertainty of what data should be gathered, how it should be gathered, and who should conduct the gathering (Friend, 2008a).

Station Teaching

The station teaching co-teaching approach involves the division of students into three or more groups based on skill levels, student interests, or social interaction levels. Three stations are set up where the content has been divided into different segments that are independent of each other. One or more groups work independently, while the other groups are assisted by the two co-teachers (Conderman et al., 2009; Friend, 2008a; Murawski, 2009). The students will then rotate to each station after a specified amount of time. Friend (2008a) recommended frequent use of the station teaching approach. The benefits of the station teaching approach are that it addresses the diversity of each student's learning needs, it promotes student interaction and participation, it reduces behavioral problems, it helps teachers meet instructional goals, and it facilitates the observation of student learning. The challenges of the station teaching approach are the implementation of lessons conducive to group activities, the increased noise level, the optimal choosing of group members, and the planning of coinciding timing for each station (Friend, 2008a; Murawski, 2009). There are also some variations to this approach for the high school level. It might be more conducive to implement two stations instead of three, plan for the lesson to extend over a period of two days, and have the teachers move to the other stations instead of having the students move (Friend, 2008a).

Parallel Teaching

In the parallel teaching co-teaching approach, the students are divided into two heterogeneous groups and each of the groups receives the same instruction, at the same time, and usually in the same classroom. However, similar to the station teaching approach, students can be grouped according to ability levels. Each teacher addresses one of the groups by delivering the same content as the other teacher (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Murawski, 2009; Villa et al., 2013). Friend (2008a) suggested frequent use of the parallel teaching approach. Because of smaller groups, there are advantages to the parallel co-teaching approach. The benefits of this co-teaching approach include the decrease in behavior problems, the increase in student participation, the increase in teacher attention available to students, and the increase in instructional power. The challenges of the parallel teaching approach are the increased noise level, the difficulty of maintaining the same pace and instructional time frame between the two groups, and the possibility of one teacher not being proficient in the material being taught causing one group of students to suffer (Friend, 2008a).

Alternative Teaching

The alternative teaching approach involves the division of students into one large group and one small group. This approach allows specific instruction to be provided to the smaller group that may need review, re-delivery, pre-teaching, enrichment, or individualized instruction (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Murawski, 2009). The benefits of the alternative teaching co-teaching approach are small group instruction and the flexibility to address certain areas of instruction based on the needs within the group of students being taught. The disadvantages of the alternative teaching approach are similar to the parallel teaching approach. The increased noise level, the difficulty of maintaining the same pace and instructional

time frame between the two groups, and the possibility of one teacher not being proficient in the content area can be quite challenging to the co-teaching partners. However, the most challenging aspect of the alternative teaching approach is "preventing the small group from being seen as the equivalent of a pullout special education classroom in the corner of the room" (Friend, 2008a, p. 74). This type of pullout could cause a stigma. McLeskey and Waldron (2007) also warned that co-teaching partners should be careful when choosing the groups. Often the special education teacher works with the special education students in a corner of the room while the general education teacher works with the remaining students. This type of teaching situation creates a contradiction to the intent of inclusive co-teaching environments. Friend (2008a) suggested avoiding the stigma by rotating the co-teaching partners when teaching the smaller group, diversifying the purpose of the smaller group, and rotating the students chosen for the smaller group.

Supportive Co-Teaching

Although the following co-teaching approach has several different names, it falls into one group because of similar traits. The one teach/one assist, the one teach/one support, the one teach/one drift, and the supportive co-teaching approaches place one teacher in a lead role and the other teacher in a supportive role. The lead teacher provides the instruction as the supportive teacher provides individualized assistance to those students who need help or provides proximity control to those students who display behavior problems (Friend, 2008a; Murawski, 2009; Villa et al., 2013). For simplicity, these approaches will be referred to as the supportive co-teaching approach throughout the remainder of this study. Although the supportive co-teaching approach is the most commonly used approach, it should be the least used of all co-teaching approaches (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Scheeler et al., 2010; Solis et al.,

2012; Villa et al., 2013). The benefit of the supportive co-teaching approach is more direct individualized assistance from the supportive teacher when a student needs it. Students are more apt to ask questions of the supportive teacher in private rather than risk embarrassment in front of the whole class by asking questions of the co-teacher giving instruction (Friend, 2008a). The disadvantage of the supportive co-teaching approach is that the general education teacher assumes most of the responsibilities of planning, instructing, and assessing the lessons (Friend, 2008a; Murawski, 2009; Scheeler et al., 2010; Villa et al., 2013). The supportive co-teacher— usually the special education teacher—often assumes the responsibilities of student monitoring in regard to behavior and work, and the distribution of papers. The teacher in the supportive role becomes merely a support and loses status as an equal co-partner in the classroom setting (Friend, 2008a). For example, the supportive teacher may be viewed as an assistant or a paraprofessional, and the students may start to associate the supportive teacher with special education, creating a stigmatization (Murawski, 2009).

Teaming

The teaming, team teaching, and team co-teaching approaches place both teachers in an equal role in planning, instructing, and assessing. Each co-teacher takes responsibility in everything taking place in the classroom and is simultaneously engaged in the delivery of content instruction (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Murawski, 2009; Villa et al., 2013). For simplicity, these approaches will be referred to as the teaming approach for the remainder of the literature review. Friend (2008a) suggested using the teaming approach only on an occasional basis. Some benefits of the teaming approach are more energizing and entertaining lessons, both partners share the instructional planning and delivery responsibilities, and both teachers are viewed as equal leaders in the classroom. The disadvantages of teaming

are the students may not be receiving the individualized attention needed to be successful, the co-teaching partners might not have reached a level of compatibility yet in the early stages of the relationship, and the teachers may get off pace by sharing real life experiences related to what is being taught (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Murawski, 2009; Villa et al., 2013).

Content Areas at the High School Level

Although co-teaching is successful at the elementary level, the implementation of successful inclusionary practices is more difficult at the middle and high school level (Kozik et al., 2009). The issues of accountability, the disparity in skill levels of students, the lack of content knowledge of special education teachers, the general educator's lack of knowledge in how to teach students with disabilities, the uncertain compatibility of the co-teachers, and the insufficient common planning time present challenges for implementing quality co-teaching practices (Keefe & Moore, 2004; Kozik et al., 2009). Co-teaching environments have proven to be successful by offering learning opportunities to groups of diverse students through the advantage of two teachers working together (Moorehead & Grillo, 2013). However, Beninghof (2012) reported that although research identified positive results with the inclusionary model of co-teaching, there is a limited research database on the subject. Kloo and Zigmond (2008) stated:

> It is clear that coteaching is not something that just happens. For it to be a productive use of the special education teacher's talents and training, coteaching must be dynamic, deliberate, and differentiated. It must unite the science of specifically designed instruction and effective pedagogy with the art of reorganizing resources and schedules to provide students with disabilities better opportunities to be successful in learning what they need to learn. (p. 16)

This study focused on the co-teaching model related to the academic areas of mathematics and literature/composition, and attempted to identify what co-teachers perceive as the most successful co-teaching approaches at the high school level.

Math

The push for the co-teaching model in mathematics classes can be traced to the demands of meeting new mathematics accountability standards (Moorehead & Grillo, 2013). The new mathematics standards can be quite challenging for teachers with struggling students (van Garderen et al., 2009). According to Dieker, Stephan, and Smith (2013), "because mathematics is a content area with the greatest dependency on spiraling curriculum and cumulative knowledge, students with disabilities were often relegated to a self-contained classroom" (p. 292). The National Council of Teachers of Mathematics Standards (NCTM, 2000) stated, "All students regardless of their personal characteristics, backgrounds, or physical challenges, must have opportunities to study—and support to learn—mathematics" (p. 12). To ensure the success of students with disabilities in mathematics, NCTM (2000) suggested that "reasonable and appropriate accommodations" be provided (p. 12). Another reason for the push into co-taught mathematics classrooms is the low standardized test scores in mathematics for students with disabilities (Cole & Washburn-Moses, 2010). Lee, Grigg, and Dion (2007) reported that the national report for eighth grade mathematics showed students with disabilities performance levels as 33% on a proficient level. The NCTM (2000) recommended the delivery of mathematics curriculum instruction on higher-level math skills involving problem-solving projects (Maccini & Gagnon, 2006).

According to van Garderen et al. (2009), little is known regarding what co-teaching practices or co-teaching approaches are most effective for mathematics instruction to struggling

students at the high school level. Usually when co-teachers are assigned to work together, they are unsure of their roles and responsibilities and this leads to confusion on what type of co-teaching approach to use in the mathematics classroom (Hunt, 2010; Moorehead & Grillo, 2013). More often than not, the most common approach used in the high school co-teaching classroom is the supportive approach where the special educator assumes the role of the assistant and the mathematics teacher assumes the role of the lead instructor (Magiera, Smith, Zigmond, & Gebauer, 2005). The supportive approach poses the problem of not using the expertise of each teacher at its maximum potential (Scheeler et al., 2010). Friend (2008a) stated that the supportive approach should seldom be used because the general education teacher assumes the responsibilities of planning, instructing, and assessing while the special educator is a "passive partner" or a "highly paid teacher assistant" (p. 79).

Friend (2008a) suggested that one reason the supportive approach is overused is due to the lack of training in core curriculum for special education teachers. Moorehead and Grillo (2013) stated that the "gaps between the preparation and knowledge base of the two teachers" create barriers when trying to develop productive co-teaching relationships (p. 50). The lack of core curriculum training for special education teachers is evident in high school mathematics. Dieker and Berg (2002) found that an abundant amount of special education teachers have very few mathematics credits in college. General education teachers tend to be more educated and experienced in high school level mathematics, while special education teachers are more knowledgeable in instructional strategies for mathematics students with disabilities (Maccini & Gagnon, 2006). Special education mathematics instruction has focused on breaking problems down into steps, using memorization strategies, and utilizing drill and practice (Woodward & Montague, 2002). General education mathematics instruction has shifted to more inquiry-based

learning from the students and less direct instruction from the teachers (Cole & Washburn-Moses, 2010). The demanding problem-solving projects may present difficulties for special education teachers who do not have the educational background in upper-level mathematics. The lack of knowledge in mathematics can cause panic, a condition known as math phobia, and negatively affect the instructional delivery from the special education teacher (Humphrey & Hourcade, 2009).

Magiera et al. (2005) suggested that general education high school mathematics teachers have ample amount of training in upper-level mathematics but little training in how to work effectively with special education students. The co-taught classroom provides a solution to each situation—the special education teachers who would have to be qualified in content areas and the general education teachers who need more training in how to teach students with disabilities (Hunt, 2010; Magiera et al., 2005). By receiving the expertise of special education teachers, the co-teaching model increases the confidence levels of general education teachers while attempting to meet the needs of students with disabilities. The special education teachers, in turn, profit from the general education teachers' knowledge of the content (Hunt, 2010).

Literature/Composition

As in the other content areas, literature/composition co-teaching partners face the same challenges—the lack of sufficient planning time, lack of administrative support, lack of special education teachers' knowledge in content area, and lack of general education teachers' knowledge in how to meet the needs of students with disabilities (Bernstein-Danis, 2012; Friend, 2008a; Kozik et al., 2009). Teachers are not sufficiently prepared to co-teach at the high school level (Bernstein-Danis, 2012; Terranoud, 2010). There is little research regarding co-teaching approaches and practices at the high school level; however, Bernstein-Danis (2012) identified

scaffolding as being overused in the language arts classroom by utilizing reading guides to support the literature being taught and by using common themes when writing. The overuse of scaffolding was not allowing the students to think independently, or draw their own conclusions.

Summary

Federal legislation and the demands to meet academic standards pushed the delivery of instruction to students with disabilities into co-teaching environments at a rapid pace (Fenty & McDuffie-Landrum, 2011; Friend et al., 2010; Murawski & Dieker, 2004; van Garderen et al., 2009). The potential of inclusive co-teaching models is a powerful strategy for improvement in student achievement while providing access to the general education curriculum for students with disabilities (Friend et al., 2010). The increase in the utilization of the co-teaching model calls for instructional skills to "meet the unique demands of this challenging equal educational opportunity" (Hamilton-Jones & Vail, 2013, p. 1). Friend (2008a) stated, "Given the increasing popularity of co-teaching and implied legislative stimulus for it, educators should not only be aware of co-teaching, but also enhance their knowledge regarding this practice" (p. 10). Co-teaching is effective in high school classrooms when the special education teacher and the general education teacher combine their expertise to create a successful co-teaching environment (Conderman, 2011; Magiera et al., 2005); however, there is a gap in existing literature with an absence of research focusing on co-teaching practices within mathematics at the high school level van Garderen et al. (2009), and McDuffie et al. (2008) suggested that studies of co-teaching in all content areas should be continued. For successful co-teaching classrooms, two teachers should not simply be placed together in a classroom without training and be expected to reach the goals set forth by co-teaching advocates (Kloo & Zigmond, 2008; Murawski & Dieker, 2008; Nichols et al., 2010). Teachers need to be trained how to utilize co-teaching approaches and

strategies in co-teaching environments. According to Bouck (2007), "future researchers should continue to examine co-teaching relationships, particularly with respect to the potential of co-teaching relationships to improve student outcomes" (p. 50). Scruggs et al. (2007) suggested qualitative studies on co-teaching partnerships to glean the perspectives of students, teachers, and administrators, not only to improve co-teaching relationships, but also to "strengthen the impact of qualitative research" (p. 413). Hang & Rabren (2009) stated, "future research studies should be conducted to determine if there are differences in other practices of co-teaching and what teachers perceive their co-teaching to be" (p. 267). Additional research on co-teaching is also needed to improve educational instruction at the college level to prepare potential education majors for co-teaching models. Ferguson and Wilson (2011) suggested that:

> Continued research on co-teaching in higher education will: (1) improve higher education instructional practices; (2) empower pre-service teachers to engage in co-teaching for the benefit of their students; (3) model collaboration; and (4) provide authentic professional development for university professors. (p. 66)

In order to implement successful co-teaching models, Friend et al. (2010) identified "the need for study across grade levels, subjects, and student learning characteristics" (p. 21).

Although some research identified the co-teaching inclusionary model as a beneficial means of educating students with disabilities, Packard et al. (2011) found that students with specific learning disabilities were slightly more successful—but not significantly—in resource classrooms than the co-taught classrooms. Regardless of which inclusionary model is more beneficial to students with disabilities, the Georgia Department of Education (Least Restrictive Environment, 2008) has set demands on administrators to educate 90% of students with disabilities in the general education setting more than 80% of the day. Co-teaching is one

inclusionary model that ensures students with disabilities participate in the general education environment (Murawski, 2009). To meet the inclusionary demands of the Georgia Department of Education (2008) and the demands of content area standards at the high school level, it is crucial to identify the best co-teaching approaches. To be successful in co-teaching environments at the high school level, co-teaching partners should be knowledgeable about the co-teaching model, the content areas, and how to meet all students' needs (Keefe & Moore, 2004; Terranoud, 2010). Packard et al. (2011) suggested careful placement of students into co-taught classrooms by considering what would be best to meet the students' needs, and that teachers who are participating in a co-taught environment be prepared for proper implementation of the co-teaching model. Careful placement would include identifying which co-teaching approaches and practices are best for each area.

Moorehead and Grillo (2013) advocated the station teaching approach for mathematics and science co-teaching classrooms because it provides more opportunities for technology integration and more student-to-teacher interaction. Hunt (2010) suggested using a variety of co-teaching approaches in the mathematics classrooms depending upon how each mathematics lesson can be enriched by the specific approach.   Despite these suggestions, there is an insufficient amount of research on best co-teaching practices at the high school level (van Garderen et al., 2009). More studies should be conducted on co-teaching approaches and practices (Bernstein-Danis, 2012). Malian and McRae (2010) suggested that "qualitative research would deem extremely valuable" and that interviews would be beneficial to identify the "teachers' perceptions of self-efficacy" (p. 15). This study attempted to bridge the gap in research that exists in high school level content area co-teaching practices by identifying what co-teachers perceive to be the most successful co-teaching approaches and practices in the

content areas of mathematics and literature/composition at the high school level. The

identification of what co-teachers perceive to be successful co-teaching approaches at the high

school level will provide ways for co-teaching partners to improve their instructional practices in

high school content areas. According to Friend (2008a), "fostering inclusive practices through

collaboration creates a context in which co-teaching can thrive. Ultimately, supporting students

with disabilities or other special needs through co-teaching can help educators to reach the goals

of contemporary schools" (p. 23).

CHAPTER THREE: METHODS

Overview

In order to comply with mandates of the No Child Left Behind Act (NCLB, 2001) and the Individuals with Disabilities Act (IDEA, 2004), schools across the nation have been implementing the practice of inclusion through the co-teaching model. The inclusion co-teaching model assists in meeting these mandates by providing special education students access to the general education curriculum and instruction from highly-qualified teachers (Murawski, 2009). Co-teaching involves two or more teachers who combine their efforts to provide instruction and support to general and special education students within one classroom (Fattig & Taylor, 2008).

The purpose of this qualitative multi-case study was to examine and identify the co-teaching approaches and practices being used at the high school level in the content areas of mathematics and literature/composition. This study examined the instructional practices of five pairs of co-teachers from different high schools within a central Georgia location. This chapter explains the design of the study, restates the guiding questions, introduces the studies' participants and settings, and identifies the researcher's role and methods to be used in the study.

Design

The philosophical assumption that led to the choice of a qualitative multi-case study was ontological and was based on the need to determine the nature of reality in the co-teaching model as perceived by general and special education teachers who participate in co-teaching environments. Corbin and Strauss (2008) explained ontology as gathering research data that is influenced by the worldviews of others in order to answer questions of the environment being studied. The case study method, in particular, adds to the "knowledge of individual group,

organizational, social, political, and related phenomena" (Yin, 2009, p. 4). As a research method, Yin (2009) explained that "the distinctive need for case studies arises out of the desire to understand complex social phenomena," and "the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events" (p. 4). According to Creswell (2007), qualitative research is an effort to explore various realities from the perspectives of the participants of the study, as well as the perspective of the researcher. Merriam (2009) further suggested a qualitative research design for those researchers looking for knowledge and ways to improve an area of practice. By examining people in the area of interest, qualitative researchers are able to discover the interpretations, constructions, and meanings of experiences of those involved (Merriam, 2009). Qualitative research is also defined as:

> Inquiry that is grounded in the assumption that individuals construct social reality in the form of meanings and interpretations, and that these constructions tend to be transitory and situational. The dominant methodology is to discover these meanings and interpretations by studying cases intensively in natural settings and by subjecting the resulting data to analytic induction. (Gall et al., 2007, p. 650)

A qualitative study allowed me to observe co-teaching partnerships in natural settings, examine the interpretations of their experiences, and derive meanings from the data.

A multi-case study was a relevant method to use in this qualitative study because it allowed investigations of different co-teaching approaches and practices in order to gain knowledge of which approaches and practices work best in different content areas. Furthermore, a multi-case study provided a method to investigate a group with multiple participants (Stake, 2006). Stake (2006) and Yin (2009) explained that using a multi-case study allows a researcher to investigate the phenomenon in more than one environment, which makes the study stronger

than a single-case study. Creswell (2007) suggested a collective (multi-case) study to expose various perspectives on what is being studied. A multi-case study allowed me to examine different content areas in co-taught classrooms. In particular, this multi-case study consisted of collective intrinsic research. Stake (2006) defined an intrinsic case study as one that focuses on the case itself. This study focused on the case of approaches and practices implemented in the content areas of mathematics and literature/composition at the high school level.

Research Questions

The following questions guided this study:

1. How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level?

2. What specific practices are implemented in co-taught classrooms at the high school level?

3. What roles are assumed by each teacher participating in the co-teaching partnership?

4. What do high school content area co-teachers attribute to their success as partners and instructors?

Setting

Along with purposeful sampling, Creswell (2007) also suggested collecting "extensive detail about each site" (p. 126). This study was conducted at high schools chosen from one county in the central Georgia region. For confidentiality purposes, pseudonyms were used in this study for both the county and the schools. The high schools were chosen from Gibson County that serves approximately 28,000 students and employs over 3,700 fulltime employees. Gibson County consists of 38 schools—24 elementary, eight middle, one alterative, and five high schools. Five of the schools have been named National Blue Ribbon Schools of Excellence by the U.S. Department of Education, 23 were identified as Georgia Schools of Excellence, and one

high school ranked as one of the Nation's Best High Schools by U.S. News & World Report. All schools in the county are accredited by the Southern Association of Colleges and Schools, and Gibson County is recognized nationally as a quality school system.

Gibson County supports and implements the inclusionary model of co-teaching in all of its schools in order to meet the state standards requiring 65% of all special education students to receive 80% of instruction in the general education environment. For the purposes of this study, five high schools in Gibson County were considered for participation, but only three of the five schools were selected due to the lack of qualifying participants. The pseudonyms for the selected schools were Moorehead High School, Ellis High School, and Maplewood High School. Moorehead High School is an urban/rural school which has a population of approximately 1,700 students, including approximately 300 students with disabilities, 56% minority, 59% economically disadvantaged, and a student-to-teacher ratio of 17:1. Ellis High School is a rural school that has a population of approximately 1,300 students, including approximately 130 students with disabilities, 40% minority, 49% economically disadvantaged, and a student-to-teacher ratio of 17:1. Maplewood High School is a rural school that has a population of approximately 1,400 students, including approximately 150 students with disabilities, 36% minority, 26% economically disadvantaged, and a student-to-teacher ratio of 17:1. (Georgia Department of Education Report Card, 2011; Governor's Office of Student Achievement, 2010-2011).

Participants

Purposeful sampling was used to choose the participants in this study. Purposeful sampling involves choosing individuals who can specifically provide an understanding of the central phenomenon of the study (Creswell, 2007). According to Merriam (2009), "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" (p. 77). Yin (2009) suggested using five or six cases to obtain a "high degree of certainty" (p. 58). For the intent of this study, I used five pairs of co-teaching partners—one general education and one special education teacher—in the content areas of mathematics and literature/composition in grades nine through eleven. The participants exhibit a rich diversity of characteristics (see Table 1).

Table 1

Participant Characteristics

General/Special Ed	Gender	Ethnicity	Subjects	Grade Level	Years of Experience
General Ed	Male	White	Lit/Comp	9	2 Teach/2 Co-Teach
Special Ed	Female	African Am	Lit/Comp	9-10	3 Teach/3 Co-Teach
General Ed	Female	African Am	Lit/Comp	9-11	13 Teach/8 Co-Teach
Special Ed	Female	White	Lit/Comp	9-11	8 Teach/8 Co-Teach
General Ed	Male	White	Lit/Comp	9	16 Teach/7 Co-Teach
Special Ed	Female	White	Lit/Comp	9-12	12 Teach/8 Co-Teach
General Ed	Female	White	Math	9-10	4 Teach/4 Co-Teach
Special Ed	Male	White	Math	9-11	19 Teach/8 Co-Teach
General Ed	Male	Asian	Math	9-12	13 Teach/7 Co-Teach
Special Ed	Female	African Am	Math	9-12	12 Teach/7 co-Teach

To identify co-teaching partnerships for this study, I procured the assistance of the

Director of Student Services within a school district in the central Georgia area. The Director of

Student Services had access to information regarding the co-teachers across the school district. I

provided the Director of Student Services with the following criteria for identifying the co-

teaching partnerships: each partnership should consist of one general education and one special

education teacher, and the co-teaching partners have been in a successful co-teaching

relationship for at least one year. Success was determined by the relationship of the co-teachers.

According to Friend (2008a), successful co-teaching practices are determined by the shared

philosophy, prerequisites, collaboration, clear plans and procedures, and the supportive context

of the co-teaching partners. A shared philosophy reflects the co-teachers' priorities and beliefs.

Prerequisites include qualities of working well with others and understanding the educational

process. Collaboration refers to the sharing of responsibility and accountability. Clear plans and

procedures address the commitment to maintain rigorous standards. The supportive context is indicated by the support and commitment of administration and the teachers' participation in professional development of co-teaching practices. When choosing participants for this study, the Director of Student Services was able to determine whether each pair of co-teachers fit the criteria by reviewing administrative evaluations of the teachers, speaking with the potential participants, and speaking with the administrators of the participants' schools.

Success was also determined by the percentage of each high school's students with disabilities passing standardized tests being higher than the state's percentage of students with disabilities passing standardized tests (see Table 2 and Table 3) in at least one out of two years from the spring semesters of 2012 and 2013. The state of Georgia scores are listed above the schools' scores. Because only one pair of co-teachers from each high school taught the subject areas, which were evaluated through state standardized testing, the tables below represent the students with disabilities who were in the learning environments of the co-teachers who participated in this study.

Table 2

Passing Rate of Standardized Math Tests for Students with Disabilities

| | Ninth Grade | | Tenth Grade | |
	2012	2013	2012	2013
State of Georgia	27%	9%	23%	27%
Moorehead HS	19%	6%	31%	33%
Ellis HS	13%	8%	33%	5%
Maplewood HS	67%	36%	42%	48%

Note. Scores retrieved from Georgia Department of Education.

Table 3

Passing Rate of Standardized Literature/Composition Tests for Students with Disabilities

| | Ninth Grade | | Tenth Grade | |
	2012	2013	2012	2013
State of Georgia	48%	52%	58%	60%
Moorehead HS	60%	45%	39%	63%
Ellis HS	40%	63%	47%	78%
Maplewood HS	71%	75%	81%	85%

Note. Scores retrieved from Georgia Department of Education.

Procedures

The procedures for this study relied on the data collection of in-depth case study methods. Yin (2009) suggested beginning a multiple case study by developing a theory, selecting the cases, and designing the data collection protocol. The theory developed in this

multi-case study was that co-teaching partners utilize specific co-teaching approaches and practices that they perceive as being effective in their content areas at the high school level. In order to identify and select successful co-teaching partners at the high school level, I needed the assistance of the Director of Student Services in a central Georgia school district. I first sought permission from Liberty University's Institutional Review Board (IRB) (see Appendix A). Upon permission from the IRB, I sought permission from my principal to present my request to conduct my study (see Appendix B). After receiving permission from my principal, I sought permission from all five high schools in the district to conduct my study (see Appendix C). Upon permission from the superintendent, I electronically contacted the Gibson County Schools' Director of Student Services to procure a list of participants meeting the specified criteria for the study (see Appendix E). With the procurement of a list of at least 10 potential participants, I electronically contacted the pairs of co-teaching partners to invite them to participate in the study and requested that the participants sign the appropriate consent forms (see Appendix F) formally indicating agreement to participate in the study.

Upon the receipt of all Consent Forms from the participants, I chose one of the pairs of co-teaching partnerships as my first case study. Yin (2009) suggested conducting the first case study, writing an individual case report, drawing conclusions, modifying the theory, and developing implications before writing a report. Yin (2009) also suggested conducting each case study in the same manner as the first, but drawing conclusions from cross-cases of individual reports, and then writing a cross-case report.   For each individual case study, I first conducted a focus group interview (see Appendix G) with the individual pair of co-teachers. Then I interviewed each teacher from the co-teaching pair individually (see Appendix H), observed three of the co-teaching partners in each of their own environments through at least one

scheduled and one unannounced visit, and finally wrote an individual report. In order to provide

my study with an accurate account of each participant's exact words and intent, I recorded the

conversation from each interview onto my password protected personal laptop. In order to

identify the co-teaching approaches and practices actually utilized in the participants'

classrooms, I recorded my observations (see Appendix I). Each case followed in the same

manner. After each individual case study was completed a case report was written and then

compared to each of the other case studies. A cross-case report was written from all of the

collected data and individual case reports.

Researcher's Role

I am currently employed as an interrelated special education teacher at one of the five

high schools in a central Georgia school district. I have been teaching in the same district for 18

years. For the past eight years I have actively participated in inclusive co-taught mathematics

classrooms, as well as mathematics resource classrooms. I served as Special Education

Department Chair for seven years at one high school in the district and one year at another high

school in the district. I served as a mentor to new teachers through the Georgia Teacher

Alternative Preparation Program (TAPP) for nine years and as a Teacher Support Specialist

(TSS) for 11 years. Some of the teachers I mentored participate in inclusionary co-teaching

models. Due to my responsibilities as Teacher Support Specialist, I have the opportunity to

closely observe a variety of co-teaching situations; however, I do not mentor any of the teachers

who will participate in this study.

Currently I have only one co-teaching assignment. Because there is a lack of highly-

qualified high school mathematics teachers in special education, my services are required in a

mathematics resource classroom. Although the school, in which I currently teach, meets state

requirements of 65% of students with disabilities participation in the general education

environment for 80% of the day, there are a small number of students with disabilities who are

placed in resource classrooms because they would not be successful in the mathematics co-

taught classes in the general education environment. Because I am a highly qualified high school

mathematics teacher in special education, I teach the students with disabilities who need the

extra support provided in the resource classroom; however, I am very interested in the roles of

co-teaching partners and the effectiveness of the inclusionary co-teaching model. I want to

examine the practices of co-teaching partnerships in high school level content areas to identify

what co-teachers perceive to be effective co-teaching approaches and instructional practices.

Data Collection

Before the collection of data began, I obtained approval from the IRB, the superintendent,

the five principals, and the ten participants for this study. Data was collected through focus group

interviews, individual interviews, and classroom observations. The focus group and individual

interviews were conducted as semi-structured and open-ended interviews, and were audio-

recorded to assist in transcription. The individual interviews provided in-depth conversations

with each participant. Classroom observations included the collection of field notes taken during

observations of the participants' co-teaching classrooms at two of the high school locations.

Focus Group Interviews

I conducted a focus group interview with each pair of co-teachers participating in my

study. Patton (2002) explained the focus group interview in the following way:

> Unlike a series of one-on-one interviews, in a focus group participants get to hear each
>
> other's responses and to make additional comments beyond their own original responses
>
> as they hear what other people have to say. However, participants need not agree with

each other or reach any kind of consensus. Nor is it necessary for people to disagree.

The object is to get high-quality data in a social context where people can consider their

own views in the context of the views of others. (p. 386)

 One of the purposes of the focus group interview was to meet with each pair of co-teaching

partners and answer any questions they might have regarding the study. Another purpose of the

focus group interview was to obtain data that may be overlooked in the individual interviews and

observations. The focus group interview provided an opportunity for the pair of co-teachers to

discuss any thoughts that might add value to the study. To obtain the high-quality data needed

for this study, the following questions were asked during the focus group interview:

Standardized Open-Ended Focus Group Interview Questions

1. What educational philosophy do you share? In other words, what are your priorities and
   beliefs in the educational process?

2. To what do you attribute your success in the co-teaching classroom?

3. Which co-teaching approach (one teach/one observe, station teaching, parallel teaching,
   alternative teaching, teaming, or supportive) do you feel is most effective for your
   content area?

4. In what ways do you share responsibilities?

5. What are some of the plans and procedures you use in your classroom?

6. How do you provide for opportunities for dialogue in your classroom between students as
   well as between teachers and students?

7. How does the administration support your co-teaching environment?

8. What improvements can be made to your co-teaching classroom?

9. What advice can you provide for teachers who are entering the field of co-teaching?

10. What would your ideal co-teaching situation resemble?

11. If a co-teaching training seminar is created, which areas of co-teaching should be covered?

Focus group interview question one addressed the need for co-teachers to share the same educational philosophy. In order to create a successful co-teaching relationship, the partners should share the same beliefs in education (Friend, 2008a). Question two specifically addressed the main idea of what I was trying to discover in my research--what the teachers are doing to become a successful co-teaching partnership. Malian and McRae (2010) suggested that research should be conducted to obtain teachers' perceptions of what makes their co-teaching relationships successful. The purpose of question three pertained to the specific approaches used in the classrooms. This question helped to identify common co-teaching practices in literature/composition classes and common co-teaching practices in mathematics classes. "In co-teaching studies, researchers must be confident that the practice implemented is defensible as co-teaching and that is consistently practiced" (Friend et al., 2010). Question four and five addressed the responsibilities of each teacher, and the plans and procedures used in their classrooms. The responsibilities, plans, and procedures are important factors for success in a co-teaching or working relationship (Conderman, 2011). Question six addressed the need for student interaction in the classroom. Vygotsky (1978) and Bandura (1986) stressed the importance of social interaction on students' cognitive growth. The support of administration was addressed in question seven. Murawski (2008) stated that the support of administration is imperative when building effective co-teaching partnerships. The remaining questions addressed advice from the co-teaching partners that would be helpful to others who are entering the co-teaching environment for the first time.

Individual Interviews

The purpose of interviewing participants in a research study is to provide an understanding of the experiences of the individuals and how the individuals interpret those experiences (Patton, 2002; Seidman, 2006). Interviews from the participants in this study will provide meaningful accounts of those co-teaching experiences. Seidman (2006), Creswell (2007), and Merriam (2009) suggested the interviewing technique as the most commonly used in qualitative research. Interviewing allows the researchers to obtain accurate accounts from the individuals who actually experienced the phenomenon (Seidman, 2006).

For the purposes of this study, I used open-ended questions that allowed each participant to provide individual co-teaching experiences. Merriam (2009) suggested identifying the type of interview to conduct by ascertaining how much structure should be used when asking questions. A highly structured set of interview questions is commonly used in surveys. A semi-structured set of interview questions uses a combination of highly structured and unstructured questions. The semi-structured interview allows more flexibility and allows access to specific data from the participants. An unstructured set of interview questions is for informal interviews and is used to develop more questions for other interviews (Merriam, 2009). For my study, I used a semi-structured interview.

Two of my peers, experts in the field of education, reviewed and validated my questions to ensure that the questions were unbiased. Upon the completion of peer review and prior to collecting actual data, a pilot study was conducted with one general education teacher and one special education teacher—both of whom participate in co-teaching environments, but will not be included as the participants in this study—to further confirm the validity and reliability of my interview questions. The following questions were asked during the individual interviews:

Standardized Open-Ended Individual Interview Questions

1. What type of co-teaching training have you received prior to or during your co-teaching experience?

2. Which of the six co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, or supportive) have you used in your classroom?

3. Which co-teaching approaches have been most successful in your co-teaching classroom? Why?

4. Which co-teaching approaches have not been successful in your co-teaching classroom? Why not?

5. Do you have clearly defined roles and responsibilities? If so, what?

6. How often and when do you collaborate (plan) with your co-teaching partner?

7. On what do you focus when collaborating with your co-teaching partner?

8. What part do you play in the planning of the lessons?

9. How is behavior management handled in your co-teaching classrooms?

10. What types of strategies do you and your co-teacher use to reach all students in the co-teaching classroom?

11. To what do you attribute the success of your co-teaching classroom?

Interview question one specifically addressed the type of co-teaching training participants received. Friend (2008a) stressed the importance of training related to effective co-teaching practices and stated that "educators need to acquire awareness of it, knowledge about it, and skills to implement it" (p. 22). The purpose of the interview questions pertaining to the participants' current co-teaching practices was to identify the foundation of each co-teaching

situation. For successful co-teaching arrangements, it is imperative for co-teachers to employ

cooperative relationships (Conderman, 2011; Hudson et al., 2006; Kloo & Zigmond, 2008).

Questions two through four addressed the makeup of the co-teaching partnerships and pertained

to the existing co-teaching approaches (Conderman, Bresnahan, & Pedersen, 2009; Friend &

Cook, 2007; Murawski & Dieker, 2004). The responses to these questions helped determine if

the participants were utilizing existing co-teaching approaches and if there was a common

approach being used in the co-teaching partnerships. The responses also identified if any novel

or hybrid co-teaching approaches were being used. Questions five through eight addressed the

shared responsibilities of the partners and how they mutually examine their practices. Success in

the co-teaching environment relies on the mutual goals and assignments of each partner

(Conderman, Johnston-Rodriguez, & Hartman, 2009). Questions nine and 10 addressed co-

teaching instructional strategies used in the co-teaching classrooms. Success can be achieved

through the specific instructional practices of the co-teaching partners (Sileo & van Garderen,

2010). The purpose of the interview questions pertaining to participants' perceptions of their

current co-teaching situations was to provide an in-depth analysis of how each participant

viewed their co-teaching practices and what they specifically attributed to the success of their co-

teaching environments. Question 11 was an opinion and value question that provided additional

data for this study (Merriam, 2009). After each interview, I transcribed, read, and coded the

data. Merriam (2009) suggested "ensuring for internal validity" by using member checking (p.

217). Member checking was conducted in this study by giving each participant a copy of his/her

own interview transcription to review for accuracy and by giving the participants an opportunity

to elaborate further or clarify any answer after reviewing the transcript.

Observations

Observations are important to a study because what is happening in reality may not exactly reflect what was stated in the participant interviews (Corbin & Strauss, 2008). Vygotsky's (1978) theoretical approach implied that "detailed descriptions, based on careful observation, will constitute an important part of experimental findings," and "if carried out objectively and with scientific rigor, such observations have the status of validated fact" (p. 14). By observing the co-teaching classrooms, I was able to see what was actually happening between the co-teachers and the interactions with students. Unfortunately, two of the co-teaching pairs were no longer teaching together because one of the teachers in one pair was promoted to administration and one teacher in the other pair had moved to another school district. Because they were no longer teaching together, I was unable to observe them; however, I was able to observe the three remaining co-teaching environments for at least two full class periods, through one scheduled and one unannounced visit. In one pair of co-teachers' classroom, the observations produced two different results, and a third observation was conducted. The observations were in accordance with a specific observation form based on information from Stake (2006) (see Appendix I) designed to document the interactions, strategies, and approaches used by the co-teachers (Creswell, 2007).

Data Analysis

Upon completion of data collection from the first co-teaching partnership, I began analyzing the data. Yin (2009) defined data analysis as a step in the case study that "consists of examining, categorizing, tabulating, testing, or otherwise recombining evidence, to draw empirically based conclusions" (p. 126). Yin (2009) explained that the data analysis relies "on an investigator's own style of rigorous empirical thinking, along with the sufficient presentation of

evidence and careful consideration of alternative interpretations" (p. 127). I analyzed the case study evidence through careful analytical strategy by using Stake's (2006) cross-case analysis methods. Corbin and Strauss (2008) defined qualitative analysis as a "process of examining and interpreting data in order to elicit meaning, gain understanding, and develop empirical knowledge" (p. 1). Yin (2009) suggested beginning the analysis with one of four strategies: relying on theoretical propositions, developing a case description, using both qualitative and quantitative data, and examining rival explanations. My data analysis built on the theoretical framework of Vygotsky's (1978) social cognitive theory; therefore, I utilized the strategy of relying on theoretical propositions. Yin (2009) suggested "relying on theoretical propositions" as the most favored of four general strategies (p. 130). This strategy helps to focus on specific data in the study. Through focus group interviews, individual interviews, and observations, I evaluated how the co-teachers interact with students and how the co-teachers interact with each other. In particular, I identified the co-teaching approaches and instructional practices used in the classrooms. After completion of the data analysis from the first co-teaching partnership, I collected and analyzed data from the remaining partnerships, one partnership at a time.

Yin (2009) suggested a cross-case synthesis technique for analyzing data that involves more than one case. In a cross-case analysis, each case is treated as an independent study. I began the cross-case synthesis by recording the data collected from the focus group interview, individual interviews, and observations for each case on the interview observations forms found in Appendices G, H, and I. I then identified themes on worksheet one (see Appendix J). After identifying the themes, I examined all evidence and analyzed the data by writing "systematic notes," "making marginal comments and adding Post-It-Notes on special pages of the report" (Stake, 2006, p. 42). From the notes and comments, I used worksheet two (see Appendix K) to

record my impressions, the case findings, and the relevance to themes. Stake (2006) suggested that "the multicase research director starts with a quintain, arranges to study cases in terms of their own situational issues, interprets patterns within each case, and then analyzes cross-case findings to make assertions about the binding" (p. 10). I analyzed cross-case findings by utilizing Stake's (2006) Merged Findings Worksheet (see Appendix L).

Reporting Results

The case study needs to start from the beginning of data collection, and then it should be ongoing during the process of data collection and analysis (Yin, 2009). According to Yin (2009), the first step in reporting a case study is to identify the audience. For the purposes of this study, the identified audience is high school mathematics and literature/composition teachers who participate in co-teaching environments. Baxter and Jack (2008) stated that:

> The goal of the report is to describe the study in such a comprehensive manner as to enable the reader to feel as if they had been an active participant in the research and can determine whether or not the study findings could be applied to their own situation. (p. 555)

Yin (2009) stated that a classic multiple-case study "will contain multiple narratives, covering each of the cases singly, usually presented as separate chapters or sections" (p. 170). The format for my case study followed Yin's (2009) multiple-case report consisting of a narrative from each individual case in its own section first then followed by the data regarding the co-teaching pairs. The cross-case analysis of the cases was discussed in its own section (Yin, 2009). Yin (2009) also suggested that some reports may require more than one section for multiple cross-case analysis situations.

To maintain organization in the multi-case study, I used a comparative structure of composition. Yin (2009) suggested using a comparative structure when repeating "the same case study two or more times, comparing alternative descriptions or explanations of the same case" (p. 176). A comparative structure allowed me to use the same inclusionary model of co-teaching, but compile different viewpoints by interviewing and observing multiple subjects participating in co-teaching environments. Yin (2009) stated that the importance of comparative structures is that the multiple-case study "is repeated two or more times, in an overtly comparative mode" (p. 177). In order to maintain a comparative structure, I used the same interview questions in each of the focus group interviews and individual interviews. I also used the same observation form in each of the observations.

Upon completion of the comparison of each case, I created theme-based assertions from the merged findings of my data (see Appendix M). Stake (2006) stated, "Given the binding concept—a theme, issue, phenomenon, or functional relationship that strings the cases together—the researchers have an obligation to provide interpretation across the cases" (p. 39). The theme-based assertions assisted in fulfilling my obligation to provide the interpretation needed for this study. After creating my theme-based assertions, I compiled a multi-case assertion worksheet (see Appendix N) to assist in creating the final report and used a final worksheet (see Appendix O) to create the conclusion of the study.

Trustworthiness

An imperative component for qualitative studies is the trustworthiness of the study. In order to establish trustworthiness, the researcher must ensure that the data obtained from the participants is accurately interpreted through credibility, consistency/dependability, and transferability (Lincoln & Guba, 1985). To ensure the trustworthiness (internal validity) of this

study, I established credibility and dependability by gathering rich data and then conducting careful analysis of the data. Charmaz (2006) suggested that "gathering rich data will give you solid material for building a significant analysis," that "rich data are detailed, focused, and full," and that "they reveal participant's views, feelings, intentions, and actions as well as the contexts and structures of their lives" (p. 14). Through interviews and observations I was able to collect rich data from the participants' co-teaching environments with data that was detailed, focused, and full. I provided "enough detailed description of the study's context to enable readers to compare" the transferability to their own co-teaching environments (Merriam, 2009, p. 226). Barnes et al. (2012) defined transferability as:

> A process performed by readers of research. Readers note the specifics of the research situation and compare them to the specifics of an environment or situation with which they are familiar. If there are enough similarities between the two situations, readers may be able to infer that the result of the research would be the same or similar in their own situation. In other words, they "transfer" the results of a study to another context. To do this effectively, readers need to know as much as possible about the original research situation in order to determine whether it is similar to their own. Therefore, researchers must supply a highly detailed description of their research situation and methods. (n.p.)

To ensure the trustworthiness of this study through credibility, dependability, and transferability, I used triangulation of rich data, member checking, and peer review.

Triangulation

Patton (2002) identified four different types of triangulation: data, investigator, theory, and methodological. For the purposes of this study, I employed data triangulation to ensure the internal validity of my findings. According to Yin (2009), data triangulation incorporates the

collection of data from more than one source in order to identify a common phenomenon. Yin (2009) explained that when data is triangulated, "the events or facts of the case study have been supported by more than a single source of evidence" (p. 116). The triangulation of data in this study was obtained by conducting focus group interviews, individual interviews, and observations. I collected and analyzed data from the three sources and increased the credibility of my multi-case study. Triangulation provided a means to compare and cross check data (Merriam, 2009).

Member Checking

Merriam (2009) suggested member checking to ensure internal validity. Member checking involves feedback from the participants in the study by having them review the transcriptions from the interviews. This provides a means of ensuring that the interpretations of the interviews are correct and the preliminary analysis mirrors the participants' true perspectives (Merriam, 2009; Stake, 2006). Lincoln and Guba (1985) identified member checking as being "the most critical technique for establishing credibility" (p. 314). Glesne (2011) explained that although member checking may be "time-consuming," it can also assist in obtaining accurate accounts of participants' views, identify areas that may be problematic, and assist in developing interpretations (p. 212). To ensure accuracy of transcription, I provided each participant with his/her own transcribed interview and observation for review. Glesne (2011) suggested that "by sharing working drafts, both researcher and researched may grow in their interpretations of the phenomena around them" (p. 212).

Peer Review

Peer review is another strategy to ensure internal validity in a study. A professional colleague can provide feedback throughout the analysis stage of the study to assist in scanning

raw data and determining the worthiness of the data to the study (Merriam, 2009). Glesne (2011) further suggested having peers "work with portions of your data—developing codes, applying your codes, or interpreting field notes to widen your perceptions" (p. 212). Dana and Yendol-Hoppey (2009) identified peer review as inquiry support and explained that the researcher may employ another professional to help the researcher "formulate meaningful wonderings and project design, as well as aid in the collection and analysis of data" (p. 70). For this study I procured a professional colleague who is familiar with special education and the area of co-teaching to provide meaningful and professional feedback during the analysis stage of the study.

Ethical Considerations

Upon receiving IRB approval and before conducting interviews and observations, I ensured that the confidentiality of the study's participants was protected. In order to preserve confidentiality of the identities of the participants involved in the study, I used pseudonyms for each participant and pseudonyms for each participant's school (Creswell, 2007). Additionally, the data gathered from the interviews and observations was secured in a locked closet in my house. Electronic files were password protected on my personal computer. After my study is completed, I will wait three years before destroying all files—written and audio-recorded—associated with this study. If a participant had withdrawn from the study, his/her individual data would have been destroyed immediately. I attempted to establish the trust of the co-teaching partners involved in this study and maintain the trust throughout the study by recording any sensitive information in a confidential, ethical, and professional manner. The Director of Student Services chose the participants for this study from the high schools within the school district in which I work. The participants chosen did not have a prior relationship with me which helped

make it easier for the co-teachers to feel free to answer questions honestly during the interview process.

Summary

The design of my study was a qualitative multi-case study based on an ontological philosophical assumption. Participants in this study were chosen by purposeful sampling which followed the defined criteria. The participants consisted of five pairs of co-teaching partners in the content areas of mathematics and literature/composition. Data from the participants was collected through in-depth case study methods.

This study developed the theory that co-teaching partners at the high school level implement co-teaching approaches and practices that are relevant to their specific needs for producing positive outcomes. I used focus group interviews, individual interviews, and classroom observations to gather information involving co-teaching approaches, instructional practices, and interactions between co-teachers themselves and between co-teachers and students. I analyzed the case study evidence using Stake's (2006) cross-case analysis methods. Data analysis was built on the theoretical framework of Vygotsky's (1978) social cognitive theory.

The findings were organized using a comparative structure of composition. Theme-based assertions were created from the merged data and were compiled on worksheets leading to final conclusions. I used triangulation of rich data, member checking, and peer review to establish credulity and dependability, thus, ensuring trustworthiness. The confidentiality of each participant in the study was fully protected.

CHAPTER FOUR: FINDINGS

Overview

Efforts to improve school systems brought about changes through federal legislation's implementation of the No Child Left Behind Act (NCLB, 2001) and the renewal of the Individuals with Disabilities Education Act (IDEA, 2004). In order to meet the mandates of federal legislation, schools began to implement co-teaching models to include students with disabilities in the general education setting. The purpose of this multi-case study was to identify and examine the instructional practices of successful inclusion co-teaching partnerships in the academic areas of mathematics and literature/composition in five central Georgia high school classrooms. Through interviews and observations, this study examined the instructional practices of five pairs of co-teaching partners—one general education and one special education teacher in each pair. The examination of instructional practices of each pair of co-teachers was treated as an individual case study and then cross-analyzed with the other case studies to identify common themes.

The research questions guiding this multiple case study were (1) how are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level?, (2) what specific practices are implemented in co-taught classrooms at the high school level?, (3) what roles are assumed by each teacher participating in the co-teaching partnership?, and (4) what do high school content area co-teachers attribute to their success as partners and instructors? In this chapter, I describe the backgrounds of the co-teaching partnerships used in this study, data from the answers to the study's research questions, data from the observations of the participants' co-teaching environment, and themes generated from the data. Finally, I provide a summary of the findings in general.

Participants

The participants in this study included a wide expanse of years in teaching experience, as well as co-teaching experience. The participants in this study were assigned their co-teaching positions by the administration in their schools. It is not common practice to ask teachers if they would like to teach together, or with whom they would prefer to teach. Interviews with the co-teachers revealed that school administration chose teachers who they believed would work well together in co-teaching environments. The background of each co-teaching partnership played a role in how the partners developed and refined the instructional co-teaching approaches for their classrooms. In this section, I briefly describe the backgrounds of each co-teaching pair.

The original participants of this study were going to be chosen from a total of five schools in a specific school district in the central Georgia area; however, the participants needed for this study were not available in all five schools. Due to co-teaching scheduling conflicts, promotions of co-teachers to administration, or physical moves of teachers to other districts, not all of the co-teaching pairs who fit the criteria of my study were available in all five schools. According to Yin's (2009) criteria of using five or six cases in order to ensure validity, it was necessary for my study to use at least a total of five co-teaching pairs. Thus, in order to meet the criteria of my study I used two former co-teaching pairs—one math (Thomas and Ruth) and one literature/composition (David and Rachael)—who were successful when they worked together for at least one year and the percentage of students with disabilities in their classrooms obtained scores higher than the state average on the state's standardized testing. Because these teachers were no longer together in co-teaching classrooms, it was not possible to observe them in their co-teaching environments but interviews with them provided useful data for this study. One pair of math co-teachers (Paul and Mary) procured for this study had not previously co-taught

together, but both had been in successful co-teaching partnerships before co-teaching together. Not only did they provide useful information during the interviews, but they also provided useful observational data for this study.

Each uniqueness found in the co-teaching partnerships added a different perspective and enriched the findings. Co-teaching pairs (Thomas and Ruth, and David and Rachael) who no longer teach together had the freedom of discussing the co-teaching experience with less fear of producing relational problems and also the advantage of discussing their experience without the pressure of being presently involved in co-teaching. David had the unique perspective of an administrator with the added advantage of 7 years co-teaching experience. Paul added the perspective of a former general education teacher who is now a special education teacher. Finally, with the exception of Dennis, all the participants of this study have experience teaching with at least one other co-teacher.

Kathy and Dennis

Both Kathy and Dennis are fairly new to the educational field and teach at Maplewood High School. Kathy is a special education teacher who has been teaching literature/composition for 3 years, and has a Master of Arts degree in Special Education with a concentration in Specific Learning Disabilities. Dennis is a general education teacher who has been teaching literature/composition for 2 years and has a Master of Education degree in Teaching and Learning. Kathy has been co-teaching for 3 years in the academic area of literature/composition on different grade levels, while Dennis has been co-teaching for 2 years, specifically in the academic area of ninth grade literature/composition. Kathy and Dennis have been working together in a co-teaching relationship for 2 years. Kathy has experience co-teaching with one other teacher, while Dennis only has experience co-teaching with one teacher, Kathy. During the

interview, they displayed a good rapport. Neither Kathy nor Dennis received co-teaching training prior to their experience of teaching together in one classroom; however, both received some basic training in graduate school on the definition of what co-teaching is but did not receive any training on how to teach with another person. Kathy and Dennis teach one ninth grade literature/composition class together, and it is comprised of 85% general education students and 15% students with disabilities.

Tina and Anne

Anne is a general education teacher who has been teaching ninth grade literature/composition for 13 years. She has an Education Specialist degree in Curriculum and Instruction. Tina is a special education teacher who has been teaching ninth grade literature/composition for 8 years. She has a Master's degree in the area of special education. Anne and Tina have been co-teaching together for a total of 5 non-consecutive years at Moorehead High School. Both Tina and Anne have co-teaching experiences with other teachers. Neither Tina nor Anne received co-teaching training prior to being placed in a co-teaching partnership, but over the past 2 years they attended co-teaching workshops provided by the school system at the beginning of each school year. Tina and Anne have a good rapport with one another and the students, and they have been together long enough to have established a partnership where they have comfortably settled into the roles of Tina as a mother-like figure who serves as comforter and Anne as a father-like figure who serves as disciplinarian. Tina and Anne teach one ninth grade literature/composition class together and it is comprised of 76% general education students and 24% students with disabilities.

David and Rachael

David was a general education English teacher who taught for 16 years, but he now currently serves as an administrator in the same county. He participated in co-teaching environments for 7 years as the general education teacher in literature/composition classes. David has an Education Specialist degree in Education Leadership. Rachael is a special education teacher who has been teaching in the same county for 12 years. She has been teaching at the high school level for 4 years in literature/composition courses and has co-teaching experience for a total of 8 years. David and Rachael only taught together for one year but they were a successful team and their students with disabilities scored above the state average on state standardized tests. They have a good rapport and mutual respect for one another. Their class consisted of 83% general education students and 17% students with disabilities.

Paul and Mary

Mary is a general education math teacher who has been teaching for 4 years and has co-taught each year of her career. She has a Master's degree in Curriculum and Instruction. Paul is a special education math teacher and he has a Specialist's degree in Curriculum and Instruction. This is Paul's first year as a special education teacher but he has 19 years of experience of teaching in college and in high school in different content areas. He has 8 years of experience in co-teaching as the general education teacher. Although this is the first year Mary and Paul are teaching together, they have already established a good rapport and familiarity with one another. They have both proven successful in their prior co-teaching experiences for their students with disabilities' standardized testing scores being above the state average. Paul and Mary teach together at Maplewood High School. Mary received co-teaching training prior to her first co-teaching experience. The training included the different approaches of co-teaching. Paul has

never received any kind of co-teaching training. Paul and Mary teach one ninth grade math class in the content area of coordinate algebra, and it is comprised of 75% general education students and 25% students with disabilities.

Thomas and Ruth

Thomas is a general education math teacher who has been teaching for 13 years and has 7 years of co-teaching experience. He holds a PhD in Engineering and Science. Ruth is a special education math teacher who has been teaching 12 years and has 7 years of co-teaching experience and has a master's degree in Business and Management. Thomas and Ruth co-taught together for a total of 5 years at Ellis High School. Ruth is currently teaching in another school system. During the focus group interview, it was clear to see by their interactive conversation that Thomas and Ruth had a good working relationship and they had a deep mutual respect for one another. Their ninth grade math class was comprised of 77% general education students and 23% students with disabilities.

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Data Analysis

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Analysis of Interviews and Observations

The focus group and individual interview questions were designed not only to mirror each other but also to allow the participants to feel free to speak candidly in confidentiality. The data from the interviews and observations related to the research questions guiding this study. The themes from this study emerged in correlation to the guiding research questions. The analysis of the focus group interview questions, individual interview questions, and observations are listed in the order of each case study and how they relate to the guiding research questions to this study:

Kathy and Dennis

  Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level? Kathy and Dennis developed their co-teaching approaches through trial and error methods. Neither literature/composition teacher had received any prior training before entering their co-teaching relationship, but after they taught together for approximately one year, both received a very brief training in graduate classes. The training consisted of learning the nature of co-teaching, but it did not include instructions on how to co-teach. Kathy and Dennis intuitively developed co-teaching approaches similar to the approaches already defined by experts in the field. In their interviews, both stated that although they use all of the co-teaching approaches, they mainly use the one teach/one observe and the supportive approaches. During the three observations of their co-teaching environment, they used a combination of one teach/one observe and the supportive approaches. In the one teach/one observe approach, Dennis delivers the lesson for the day while Kathy focuses on the students with disabilities, making sure they are on task, making sure they have an understanding, and paying attention to the confused looks on faces. She takes notes and consults with Dennis over any problem areas. They use the one teach/one observe to identify any students who are struggling and then switch to the supportive approach so Kathy can walk around the room to help those struggling students. Kathy also stated, "I use a combination one teach/one observe and the supportive instruction when we have students who have those behavior issues that need close monitoring."

  Kathy also feels that the parallel co-teaching approach is very effective because it allows her to pull out struggling students, or students that have a history of struggling, to give them the extra support needed while teaching the same thing that her co-teaching partner is teaching.

Dennis and Kathy also stated that they feel the alternative approach is very similar to the parallel approach, and they use it for review time with the students or when some of the students need additional teaching. When the alternative or parallel approaches are used, Kathy takes the struggling students aside, or to another room, and teaches them in a different way. Kathy stated, "When we're introducing new material, the parallel teaching and the alternative teaching work well, and when it comes to individualizing instruction as well as re-delivering material." In addition, Dennis identified station teaching as a successful approach. Both Kathy and Dennis believe that all of the co-teaching approaches are successful if applied properly.

Research Question Two: What specific practices are implemented in co-taught classrooms at the high school level? Dennis and Kathy's plans and procedures change on a daily basis depending on what is being discussed on that particular day. Dennis and Kathy plan their lessons together with Dennis creating the lessons and Kathy providing input, comments, and suggestions. During the interviews they stated that while they were planning the lessons they would identify which standards to deliver and to what extent, which students needed support, and how to structure the lessons. Kathy explained, "We focus on what we've seen the students doing as far as re-delivery of information…We talk about how things are going with certain students." Kathy and Dennis put material on the student's level and provide the tools needed for success, but believe it is the students' responsibility to do the work. They like to use group work to provide peer tutoring and dialogue among the students. Dennis and Kathy stated that group work is successful for students with disabilities because they have the other students with whom to talk and discuss ideas. Kathy stated, "At the same time, if they are doing group work or partner work, we're coming around getting feedback from them." Dennis added:

It's similar to station teaching in the fact that you have groups working independently with one another but my co-teaching partner and myself both rotate and we revolve around the classroom just double-checking, making sure that they are providing each other assistance and they're not steering each other in the wrong directions.

During the observations, Dennis and Kathy's classroom was set up traditionally with rows and columns of desks facing the front of class. The board in front of the class read, "How can you best convey your thoughts and ideas?" At the beginning of the school year, Kathy and Dennis presented clear rules and expectations for the students. If any behavior problems occur, either one of the teachers handles the behavior, depending on the situation. They start each day by getting the students settled down, and then, to keep them on task, Dennis tells the students, "You have to be gainfully employed." Dennis and Kathy constantly check for understanding through formative assessments and observations. In one observation, Dennis checked for understanding while he clarified a literary concept for a student when the student asked, "When the man was listening and trying to figure out what animal made the noise, would this be man vs. self?" Dennis explained to the whole class, "Man vs. self would really be when the man was telling himself just one hundred more strokes and I can make it. Class, what literary form would this have been?" Students unanimously chimed in, "Character vs. nature!" Dennis replied, "Yes, character vs. nature." In another observation, Dennis asked, "What literary concept is being used here?" The students answered in unison, "foreshadowing." Dennis and Kathy informally assess their students frequently by asking students comprehension questions.

Dennis and Kathy incorporate differentiated instruction into their learning environment by first assessing students' cognitive levels and learning styles. They prepare their lessons to include a variety of learning styles. For example they use audio-recorded stories to play in class

for those who are struggling readers or for those who are auditory learners. They provide

reading guides for students who are struggling readers or writers. They provide peer-tutoring in

their classroom by allowing the students to ask each other questions to make sure they are doing

the work correctly. Both the teachers and peers provide the reassurance, constructive criticism,

or praise for students to continue with their work. They also differentiate the way students

present what they have learned by allowing them to use art, music, acting, interviews, dioramas,

models, posters, board games, graphics, or writing for their presentations.

Research Question Three: What roles are assumed by each teacher participating in

the co-teaching partnership? In all three observations of Dennis and Kathy, Dennis assumed

the role of lead teacher and Kathy assumed the role of an assistant teacher. Dennis called the

class to order, took the attendance, provided the instruction, led the discussions, and gave the

instructions for the day, while Kathy assisted Dennis or the students. Kathy's role was mainly

supportive and behavior management. In the interviews, Dennis and Kathy agreed that they both

grade the papers and share the responsibilities in preparing for the class as well as managing the

class. In the observations of their classroom, Dennis and Kathy clearly utilized a supportive co-

teaching approach, with Dennis as lead teacher and Kathy as the supportive teacher.

Although Dennis and Kathy share most of the responsibilities in the classroom, their

interviews revealed that outside of the classroom they are each responsible for their own

students. During the individual interview, Dennis stated, "Definitely her caseload, her students

with special needs, are definitely her forte, where the general ed. students are my deal, but aside

from that everything is spit 50/50." During the focus group interview, Dennis stated, "Her

students are, at the end of the day, her students, and she worries about them. And the general ed.

students at the end of the day, they're mine, but during class we work with everybody." Kathy

added, "Honestly, there is no clearly defined role. You just go where you see you're needed and we switch and change."

Research Question Four: What do high school content area co-teachers attribute to their success as partners and instructors? Dennis and Kathy attributed their success to keeping open minds and relaxed attitudes while sharing a classroom and responsibilities. Kathy added that co-teachers have to be "willing to let someone else come in and realize they're not trying to come in and take over your territory. They are there to help their students and that should be a common goal that both of you share." They believe that part of their success is due to their ability to be flexible and patient. Kathy reaffirmed:

> We realize that every day is going to be different. Neither one of us gets our feathers ruffled very easily and that makes a good experience as well as the fact that we're both very relaxed. If a student didn't learn something yesterday, then we know we're going to have to re-deliver.

Although they have been successful in their co-teaching environment, Dennis and Kathy believe that more planning time for co-teachers would contribute to the success of their co-teaching efforts. They stated that they received some planning days to help them prepare and that the administration did a good job of pairing them together. They also praised their administration for purposely choosing their classroom locations in order for them to be closer to each other so they could do some planning. Being stationed close to each other makes it easy for them to meet every day before school, during planning, after school, or just in passing.

Another reason for success was attributed to their ability to communicate with one another. Dennis stated, "We listen to each other, we communicate with each other. We are always talking about what we can do to best take care of these kids and make sure they are

learning something." Dennis and Kathy stressed the importance of both teachers being consistent across the board in their approaches to students, and they felt that this contributed to their success as co-teachers. They are both consistent in their teaching approaches as well as their behavior management approaches, and they communicate this to each other. They provide input to each other, and they cooperate with one another. While they are in class most of their communication is nonverbal. During an observation, when someone knocked on the door, Dennis signaled to Kathy to open the door. Then during another observation, while students were working, Dennis and Kathy signaled each other to determine which teacher would work on which side of the room to help students. If either one of the teachers needed to leave the room, they would signal the other teacher to let them know they were leaving. For example, Kathy needed to get something for the students. She signaled Dennis that she was leaving and would be right back. When she returned she had two poster boards for some students to use to work on their projects.

Dennis and Kathy attribute their success to having open minds and relaxed attitudes, being flexible and patient, being consistent with approaches, sharing responsibilities, and having open communication. Kathy added that another part of their success is that the students in their classroom were placed correctly in the co-taught environment, and those students benefited as well as the teachers.

Tina and Anne

Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level? Tina and Anne did not receive prior training to their literature/composition co-teaching relationship. Similar to Dennis and Kathy, they developed approaches as they worked together as a pair and later discovered that the

approaches they were using were the same as those that had already been defined by others in the co-teaching field. Over the past two years, Tina and Anne have attended co-teaching training provided by the county and were exposed to co-teaching approaches, organizational lists, graphic organizers, and what was expected of co-teachers.

Tina and Anne try to incorporate all of the co-teaching approaches into their co-teaching environment. They explained that there is not just one co-teaching approach that works for every situation. They use the supportive co-teaching approach more than the others and they believe this co-teaching approach works well when the special education teacher does not have a degree in the content area. They explained that in the supportive co-teaching approach the responsibility of the content knowledge falls on the general education teacher while the responsibility of assisting the students who are struggling falls on the special education teacher. While the general education teacher is moving on with the rest of the class, the special education teacher helps the struggling student. Anne added, "And every now and then there's the interjection of the other teacher that's able to provide whatever extra feedback, maybe another perspective that students can understand her way of explaining it better than the way I do."

Tina and Anne also believe that the one teach/one observe co-teaching approach works well. However, they only use the one teach/one observe approach at the beginning of the school year to allow the special education teacher to take notes or walk around and observe, or to help students where needed. Tina and Anne also believe that station teaching is another approach that works well and they use it quite often. Anne is particularly fond of the teaming approach and explained that it works best when both of the teachers are familiar with the content. She stated, "Being able to jump in and do the tag team method with the students lets them know and understand that we're equals in the classroom. And she may be able to provide different

examples or more understanding or something." Tina added that all of the co-teaching approaches can be successful if they are done correctly; however, Anne was quick to point out the parallel teaching was the least successful approach in their own classroom. She explained, "We haven't studied the material to make sure we're both hitting on the same topic at the same time. And, given the time in class and the amount of space we have, being able to parallel teach is just not conducive to our environment."

In one observation of Tina and Anne, they started with the supportive co-teaching approach. In the middle of the lesson, the supportive approach changed into the parallel approach, then towards the end of the period the station teaching approach was used. When they used the parallel approach, they combined it with the station teaching approach. Anne taught two groups of students, Tina taught the same material to two other groups of students, and one group worked independently. After the initial instruction, Anne and Tina walked around the stations, providing instruction and checking on progress. In the next observation, Tina and Anne used the teaming approach at the beginning of the lesson but used the supportive approach for the bulk of the lesson and the end of the lesson. Between the interviews and observations, it was clear that although Tina and Anne use a variety of co-teaching approaches, they mainly use the supportive co-teaching approach.

Research Question Two: What specific practices are implemented in co-taught classrooms at the high school level? According to Tina, their classroom is not very teacher-centered. Their classroom layout is set up for differentiated instruction and the desks are arranged in non-traditional fashion that changes daily. In the first observation, the desks were arranged in five stations with three desks at each station. In the second observation, all of the desks were facing the front of the class and they were placed in a U-shape. The walls were

covered with vocabulary words, literary terms, standards, missing assignments, posters explaining what co-teaching approaches were going to be used that day, and posters of the stories that were read in class. The whiteboard boasted an agenda for the day including the warm up, essential question, and mini-lesson. The air-conditioning was extremely loud and the teachers had to raise their voices to be heard. It was a room full of noise and visual stimulation and the students appeared to be not only comfortable in the environment but excited to be there.

The differentiation continued into their instruction. During an observation, the students began by working independently, then there was some teaching, followed by group work, and then the students interviewed each other. The co-teachers use of differentiation results in the instructional approaches continuously changing. Anne explained that there is never a time when the teacher stands at the front and lectures for any length of time. Tina and Anne feel that it is necessary for the types of students they teach to be able to get up and move around. Tina and Anne use a lot of group work in their classroom, which provides opportunities for dialogue between the students. Tina explained, "Constant group stuff so that they're constantly communicating with each other and to us…This environment is, in my opinion, what works best for students with disabilities." They also provided individualized instruction to those students who needed extra support.

Tina and Anne also use audio-recordings in their classroom for struggling readers. They interact with the students during the lessons and recordings to assess the students' understanding of the material. For example, during one observation, Anne stopped the audio recording and explained what was going on in the story, and Tina added, "Why do you think the guy was smiling in the story? It's because he is getting revenge!" Anne continued to point out ironies in

the story as it went along. Anne also explained different terms in the story. She explained to the students, "I vowed revenge means I'm not going to take this mess! I'm going to fight back!"

Tina and Anne have clear plans and procedures for their students. Anne explained that on the first day of school they communicate their expectations to the students: (a) students cannot leave the room unless it's an emergency, (b) upon entering the room, students are to read what is on the posted agenda for the day and get started, (c) the papers are distributed and collected in a specific fashion, and (d) personal business is to be taken care of before class begins. Tina and Anne assess their students with a short pre-quiz before the lesson and post-quiz after the lesson. In one observation, they conducted the pre-quiz then Tina went over the questions and answers with the class. After class was over, Tina and Anne discussed how the students fared on both the pre and post-quizzes and how the students behaved during the reading. They planned to give a more formal assessment of the lesson on the following day with a test. Tina and Anne explained that they modify lessons and assessments to the appropriate level for different groups of students.

Research Question Three: What roles are assumed by each teacher participating in the co-teaching partnership? For the most part, Anne (the general education teacher) assumed the role of lead teacher and Tina (the special education teacher) assumed the role of the supportive teacher. Although both teachers provided instruction in the classroom, Anne assumed the bulk of the teaching. During an observation, Anne explained the terms and concepts of the story and what the students would be doing, recapped what was done in class the day before, then gave the final assignment details for homework. Tina echoed Anne's explanation of terms and concepts and re-delivered information regarding the homework assignment to the struggling students. It is important to note that Tina sometimes took a lead role. For example, in one observation, Tina

started the class out by giving a very short lesson and then provided the instructions for an activity, but Anne assumed the lead role for the rest of the class period.

As far as other responsibilities in their co-teaching partnership, they both share the responsibilities of preparing lessons, taking attendance, keeping the students on task, and handling behavior problems. However, Anne does the bulk of the lesson planning. Anne explained that she is the teacher of record, and she realizes that her primary role is preparing the lessons to meet the needs of the higher-level students as well as to differentiate or tier lessons in order to meet the needs of all students at every level and still be able to meet the standards. Once Anne completes the lesson plans she shares them with Tina. Anne explained that Tina "is able to provide insight, provide other suggestions, and help me with the planning process of knowing how to reach the special education students or students at a lower level." Anne added that she and Tina both "take the liberty of developing their own way of delivering the content" and that allows them "to incorporate so many ways of delivering." Anne further explained that although she and Tina share the responsibilities, Anne enjoys the teaching side of the partnership, while Tina enjoys the record-keeping side and they naturally lean towards the area in which they feel most comfortable.

During the observations, Anne was the teacher who took attendance but Anne explained that Tina often reminds her to take the attendance or sometimes Tina makes a mental note of the attendance and later tells Anne which students were absent. As far as who delivers the lessons, according to Anne, both she and her partner do whatever is most comfortable for that person, and there is an understanding between them. Sometimes Anne feels more comfortable teaching certain lessons, and sometimes Tina feels more comfortable teaching certain lessons. However, Anne stated that overall she teaches the bulk of the lessons.

Research Question Four: What do high school content area co-teachers attribute to their success as partners and instructors? Tina and Anne attributed their success to their shared educational philosophy, relationship, mutual respect, flexibility, and honest communication. Tina and Anne believe that if teachers and students are given the right tools, all students can learn. Tina pointed out that this learning only occurs "if they are motivated and willing." Anne added, "I think we understand that the students need time." She explained that in order for the lower level students to get to the same point in comprehension of the standards as the higher level students that it may take a different process or time frame to get to that point. She stated, "So they have to be treated as individuals. You can't do it any other way."

Tina and Anne stressed the importance of the team relationship. They referred to their relationship as a parental type of relationship with their students. Tina mentioned that their success was "partly the shared philosophy, but sometimes the fact that we are opposite has worked well for us. We are like momma and daddy in the classroom. I'm kind of like the social worker and she's more like the disciplinarian." Anne explained that working with a co-teaching partner for more than one year helps to build the teamwork between the partners. She believes that the co-teaching environment can be successful when the relationship and the rapport start to build. She further explained that relationship and rapport build "when you have an understanding of one another, and there's time to grow and understand each other and the roles you're going to play." Tina and Anne also stressed the importance of having mutual respect for one another. Both teachers shared that their mutual respect for one another grew over the five years they have been together by learning about each other and each person's teaching styles.

Tina and Anne feel that it is important for co-teachers to be flexible and patient. Anne stated, "Every year we get a new group of students with new needs and we're having to reassess

our method of handling the business at hand." Tina explained that co-teachers who have been teaching for many years may have to do something in a way that is not familiar to them, and they should keep an open-mind and look at is as a positive rather than a negative.

Tina and Anne believe that their honest communication with one another also led to their success as co-teaching partners. Tina stated, "I think honest and open communication is number one." Tina further explained:

> If there's something going on that I thought there was a problem with, I wouldn't feel funny telling her. Whereas other co-teachers I've had in the past, I just didn't want to deal with it. Without communication in this, it's not going to work.

Tina and Anne also believe that having honest and open communication with the parents and the students are as equally important as having honest and open communication with each other.

Tina and Anne's communication with students and with each other in the classroom is vocal. For example, during an observation, Anne and Tina called across the room to each other to assess the situation. Anne called, "How are they doing over there?" Tina responded, "I'm having to keep them on track." In another example, when Anne told the class to do something, Tina would repeat all or part of what Anne said. During the observation, Anne said, "Each person needs to get a handout from the folder. Everybody get a highlighter." Tina reinforced Anne by stating, "Everybody get a highlighter. Listen!"

Tina and Anne believe they would be more successful as co-teaching partners if they had more planning time together. Anne admitted that she meets with her partner whenever they get a chance during their common planning period, but they feel this is insufficient time to accomplish the things they desire to accomplish. Anne stated that they used the planning time to identify each other's strengths and weaknesses as far as the content was concerned, to provide

suggestions to each other, and to locate resources and aids to help the students. They also believe they would have been more successful in the beginning of their relationship if they had received co-teaching training prior to their teaching together.

Rachael and David

  Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level? Rachael and David did not receive co-teaching training prior to entering their co-teaching relationship and the approaches used in their literature/composition classroom were developed according to their level of knowledge in the content area of ninth grade literature/composition. Because Rachael entered the co-teaching relationship with no knowledge of the content area, the co-teaching partners naturally slid into the supportive co-teaching approach. Rachael explained that the supportive approach was the best way for the co-teaching pair to teach the classroom because she was so new to high school and she was not familiar with the curriculum. She added that in her current co-teaching environment with a new partner, she uses teaming because she now has the knowledge of the curriculum and she feels comfortable providing instruction in the content area. However, she pointed out that she feels the supportive co-teaching approach works best to handle behavior problems and to help struggling individuals, and she feels the supportive approach is the most effective approach for co-teaching environments. Rachael added that she feels that the station approach is the least effective for the co-teaching environment. She explained that in her experience, station teaching's "rate of rotation was too fast-paced for some of the students who struggled and some of the students with disabilities. They would move on to the different stations before they were finished."

Research Question Two: What specific practices are implemented in co-taught classrooms at the high school level? Rachael and David set up their classroom in a non-traditional fashion. David explained that they had a seating arrangement in groups of four desks where sometimes they would allow the students to sit where they wanted and other days they assigned the seating. The desks were arranged in groups of four to allow students to work in groups. David explained that the group work provided opportunities for dialogue between the students as well as the teachers and students. Rachael added, "the atmosphere was one where they weren't scared to ask questions." David further explained that even when it was not group work assignment, the grouping of students allowed them to work together and provided a sense of peer tutoring. The grouping of students also allowed Rachael and David to walk around the room and converse with the students by answering questions or providing input.

Rachael and David used formative assessments and observations to ensure that students understood the information received during instruction. They discussed which students were struggling and how they could modify or tweak the lessons to assist in individual student's comprehension of the material. Rachael explained that they would assist the students by "checking for understanding…especially when we were reading longer pieces like the *Odyssey* or *Romeo and Juliet*." To further assist the students Rachael stated that they utilized differentiated instruction through guided notes that helped with their comprehension of some of the literature, and through classroom discussions which allowed the students to freely ask questions when they did not understand certain passages.

As far as practices pertaining to behavior management, Rachael and David reported that they did not have any behavior problems in their classroom. Rachael explained that David "monitored students well, and worked himself around the room, and he just had a presence that

demanded good behavior." David believed there were no behavior problems because of the structure of the classroom, and the students knew that David and Rachael were working together as a team and would back each other up if needed. Rachael further explained that the structure and clear transitioning from one activity to another were important and helped with behavior management and on-task behaviors. She stated, "Because of the structure in the classroom, students with ADHD, other health impairments, or specific learning disabilities were able to focus on what we were doing instead of wondering what they were supposed to be doing."

Research Question Three: What roles are assumed by each teacher participating in the co-teaching partnership? In Rachael and David's partnership, David assumed the role of lead teacher while Rachael assumed the role of supportive teacher. David explained that he was mostly in charge of grading and attendance, but his partner, Rachael, would grade the special education students' papers. David did the bulk of lesson planning while Rachael modified the lessons to fit the needs of her students with disabilities. Rachael noted, "He was very organized and structured. He always had plans for the following week and knew what he was doing." Rachael explained that her co-teaching partner would send her the lesson plans for the week so she could peruse them and adjust them as needed. Although David was in charge of the lesson planning, he and Rachael would do some of the planning together. Rachael explained that she and David were productive during their planning time together. She offered advice to other co-teachers:

> I think the teachers who are going to be co-teaching partners need to have some kind of
> organizational structure or guide for their planning time so that each teacher will know
> what they need to focus on when they are planning together. It's important to stay
> focused on that planning and not start talking about how different students are acting or

doing. They need to get their lesson plans and activities set and then they can talk about what's working and what's not working.

Research Question Four: What do high school content area co-teachers attribute to their success as partners and instructors? Rachael and Dennis attributed their success to their shared educational philosophy, flexibility, open-mindedness, good relationship, and teamwork. Rachael stated, "If you have the same philosophy about teaching and students' learning, that helps tremendously." Both David and Rachael believe that every child deserves the opportunity to learn and that every child can learn. Rachael explained that they both held high expectations for each student whether they were a regular education student or a student with disabilities. David and Rachael made several comments relating to their co-teaching relationship. David explained that the most important factor to be successful in co-teaching relationships is that co-teachers need to have a good relationship and added that if you have a good relationship, it "makes everything go easier." He continued to say that in the relationship, "both teachers need to come in with the mind set of working, that they're going to do the work, and share the responsibilities fairly equally." Rachael and David stressed the importance of being flexible and open-minded. David stated, "Don't be stuck just in your ways. Be willing to listen to other people's ideas." Rachael added that co-teachers need to be "flexible because plans change sometimes. You just have to go with the flow."

Rachael and David believe they could have been even more successful as a co-teaching pair if they had been able to teach together for more than one year and if they had a common planning period. They stated that teaching together for more than one year helps to build that dynamic of the co-teaching relationship. Although Rachael and David did not have a common

planning period, they tried to meet at least once a day to make plans for the next day or the coming week. They both felt they could have used more time together. David commented:

> I think the more time that you get with that person whether it be planning or whether it be in the classroom, you build that relationship, and I think that benefits the kids because they see that and they feed off of that as well.

They also felt that they would have been more successful if they had received more support from their administration. Rachael stated that she was often pulled out of her co-taught classroom to attend meetings. She felt this compromised the integrity of her being in the classroom. Not only was she missing what was happening in the classroom, but no substitute was provided to take her place.

Paul and Mary

Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level? Mary was the only teacher in this study who received co-teaching training prior to entering co-teaching environments. Her co-teaching partner never received any type of co-teaching training. No new co-teaching approaches were developed and both teachers stated that they mainly use the teaming approach in their mathematics classroom, and they both feel that the teaming approach is the most effective out of all the co-teaching approaches. In both observations of Paul and Mary, a combination of supportive co-teaching and teaming approaches were used. At the beginning of the math class, Paul, the special education teacher, went over the warm up problems and vocabulary on the first part of the power point and Mary, the general education teacher, walked around the room and assisted the students. Mary taught the second part of the power point, which was the main focus of the lesson for the day. During this portion of the lesson, Paul assisted the students while Mary

taught. Then both teachers modeled how to work out the math problems, sometimes using the same method and sometimes showing different methods of solving the problems. After the lesson, both teachers walked around and assisted the students.

Research Question Two: What specific practices are implemented in co-taught classrooms at the high school level? In Paul and Mary's classroom, each day begins with a warm up activity. The students enter the room and begin the warm up while Paul gets everyone settled and Mary takes attendance. After reviewing the answers to the warm ups and any questions the students might have, either Paul or Mary teaches the lesson, and then the students work on the assignment for the day. Paul and Mary informally ask questions and have the students come up individually to the board to work out math problems. When students work out the problems on the board, they encourage others to ask questions about the problems that were worked out on the board. Paul and Mary frequently use individualized instruction and redirection to keep their students on-task and to ensure student comprehension. Paul stated that he and Mary identify which strategies they will use to help struggling students and what projects they can create to help the students succeed. Mary added that they decide what the students will be doing during the lesson as far as working individually, working with partners, or working in groups.

During the first observation, the classroom was set up in a traditional fashion, with rows and columns of desks facing the front of the class. It was very cramped for the amount of students and adults in the room. It appeared to be difficult for the teachers to move around the desks to provide assistance to the students. On the second observation, the desks were placed together in pairs and faced the front in a U-shape. The arrangement allowed much more room for the teachers to move around and assist the students. Mary explained that they try different

seating arrangements quite often to see what works best for the students. When they group the

desks together, Paul and Mary utilize peer tutoring to provide opportunities for dialogue among

the students and to allow higher-level students to assist with the struggling students.

Paul and Mary mainly use non-verbal communication during class. During both

observations, Mary and Paul constantly signaled each other or communicated with each other

about the math problems or some problem areas with the students. They signaled each other as if

to say, "You teach this part" or "I will teach this part." In one observation, Mary signaled Paul

and then went to the board to write the slope formula. Later, Paul went to the board and

explained how to graph parent functions. Students still seem confused, so he explained in

greater detail. Both Paul and Mary ensured students' comprehension before moving on to the

next step. To assist the struggling students further, both Paul and Mary provide tutoring each

day before and after school.

Research Question Three: What roles are assumed by each teacher participating in

the co-teaching partnership? Paul and Mary both stated that the only role that is clearly

defined is that Mary is responsible for attendance and grading; otherwise, they both assume the

role of lead teacher in the classroom and the responsibilities were equally divided. Paul added

that he and his partner are constantly assessing the effectiveness of the lessons and what role

each teacher will play in each lesson. As far as lesson planning, Mary stated that the lesson plans

for their particular course were already in place and there really was no planning involved;

however, she added that she created the pacing calendar for the content area. Both Paul and

Mary handle the behaviors in the classroom. They stated that they began the school year by

setting the rules and expectations for the students, but if any inappropriate behavior takes place,

either one of the teachers handles the situation. Mary stated that they think of problematic situations beforehand, so that if they do happen, they will be ready for them.

Research Question Four: What do high school content area co-teachers attribute to their success as partners and instructors? Paul and Mary attributed their success to having mutual respect for one another, good communication, open-minds, shared educational philosophies, administrative support, and being familiar with the content. Paul stated that he receives total respect from Mary and he feels that is not always the case for special education teachers. Paul believes that mutual respect for each other is the most important factor in a co-teaching relationship. He stated that co-teachers should do everything they can "not to embarrass the other teacher in front of the students when something comes up." Although this happens infrequently, Paul stated that when he or Mary makes a mistake, they wait until after class to gently point it out to each other and then decide how they will correct it the next day. Paul stated, "If there is something that bothers you, you've really got to let the partner know." They constantly give each other the respect that is needed to be successful as co-teaching partners.

Paul and Mary believe that they communicate well with each other and with the students and feel this is one of the reasons they are successful. Paul stated that he and Mary can communicate without speaking. They both believe they are on the same wavelength, they know what to do, and when to jump in to provide whatever is needed. They stated that they have the ability to bounce off each other. Paul explained:

> We don't even have to tell each other when we are going to start the teaching. We just
> see that there's a need. They need to start the warm up and she may be taking attendance,
> so I'll start the warm up. Or I'll be working with a student, so she'll start the warm up.
> Whatever the situation is, one of us is going to make sure that the teaching is going on.

They see two people who are good at math and do it differently, so it's okay if they do it different, too. It's kind of like I show them how to do it right-handed, and she shows them how to do it left-handed.

Being open-minded is also important to Paul and Mary. They are open to sharing a classroom, responsibilities, and ideas and feel that this is also very important in a co-teaching relationship. They also feel that sharing the same educational philosophy is important. Mary stated that both she and Paul feel that all students can learn and suggested not to "place pre-determined boundaries or limitations on kids," and Paul added that both he and Mary go further by stretching the students to learn more.

Another reason for success was identified by Paul and Mary as administrative support. Paul stated that the administration rarely pulls him out of class to cover another class. He believes that "it destroys the integrity of the classroom." He explained:

It's not good when the general education teacher has everything set up for the special education teacher to instruct on a certain day, and the special education teacher gets pulled out. Then the general education teacher has to come up with a new plan fast. Also, the special education teacher that's pulled out all of the time doesn't know what's happening in class and the students' perception of the special education teacher goes down because they can't always count on that person when they're here sometimes, and then they're not.

Mary stressed that knowing the content is the most important key to success in the co-teaching environment. She explained that she has worked with several co-teachers in the past that did not know the material, and they were unable to assist the students or assist in the lesson planning or teaching. Paul knows the content and not only can he assist the students, he can

assist with any lesson planning, and he can teach the material. Knowing the content made it possible for Paul and Mary to use the teaming approach. Mary mentioned several times in the interviews that both co-teachers' knowledge of the content is the number one key to success.

Thomas and Ruth

 Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level? Neither Thomas nor Ruth received co-teaching training prior to entering their co-teaching relationship. Ruth received co-teaching training a couple of years after co-teaching with Thomas. They did not develop any new co-teaching approaches in their mathematics classroom, but they tried to use all of the co-teaching approaches. Thomas stated that they mainly used the teaming approach in their classroom, and Ruth stated that she felt that the parallel approach was the most effective. In the teaming approach, each teacher took turns providing the instruction to the students. They also used the parallel approach quite often. Rachael, the special education teacher would work with one group of students in one area of the classroom while Thomas would work with another group of students in another area. The same math content was taught to both groups and each group consisted of both special education and general education students. They both believe that all of the approaches can be successful if applied properly; however, Ruth identified the alternative teaching as the least successful approach.

 Research Question Two: What specific practices are implemented in co-taught classrooms at the high school level? Each day, Thomas and Ruth began their class with a student pledge designed to encourage and inspire the students' best efforts. This pledge was changed on a daily basis, but it was designed and used to create and foster an environment that was conducive to learning. The pledge would address anything from "not complaining" to

"trying my best to graph the functions." The pledge always mirrored what was happening in the class during that particular week.

Thomas and Ruth provided opportunities for the student to have dialogue with the teachers by continuously asking the students questions such as, "What did you get? What did you understand? What did you hear?" The students felt safe and free to ask questions of each other and/or the teachers. Thomas explained that they used the strategy of questioning to ensure student comprehension. They used grouping to allow students to have peer tutoring, and they re-delivered the material when they felt the students needed that extra support to build a foundation before going on to the next level.

Research Question Three: What roles are assumed by each teacher participating in the co-teaching partnership? Thomas and Ruth stated that they both provided the instruction in their classroom. According to Ruth, she and Thomas would "switch the lead teaching for the different areas." She explained, "He loved some of the instruction and I loved some of the instruction, so the students never felt that they had one teacher in charge and one that wasn't. They knew we were a team." She also stated, "That's how we shared responsibilities and that helped to solidify for the students that there was no division." However, as far as managing the classroom, Ruth explained that she and her partner had clearly defined roles and responsibilities. She stated that Thomas was the teacher of record so he was in charge of attendance and grading, but she was in charge of classroom and behavior management. Thomas agreed that Ruth was the disciplinarian in their classroom. They both stated that behavior management is her strong suit and that Thomas was more soft-spoken. Ruth explained:

It's almost like children know that mom and dad are a team. They knew we were a team and that we worked together. I am more of a questioner and he's more laid back, but it didn't minimize his importance and it didn't maximize my importance.

Research Question Four: What do high school content area teachers attribute to their success as partners and instructors? Thomas and Ruth attributed their success to mutual respect, teamwork, energy, administrative support, and a shared educational philosophy. In describing their mutual respect, Ruth explained:

No one had to be the big 'I' with the little 'you'. Even though he was the teacher of record, he never made me feel as if I was an assistant. We pulled from each other and we valued the experience and the knowledge that the other had.

The teamwork between Thomas and Ruth consisted of the co-planning time they spent together discussing how they were going to do things in the classroom, and it also consisted of the way they bounced off of each other in the classroom. They always presented themselves as a team. They also presented a classroom that was "ignited with energy" and enthusiasm. Ruth believes that if a teacher shows enthusiasm for the subject, the students get excited and want to learn. She added that station teaching provides an exciting learning environment where the students "get to do so many things and the light comes on."

Both Thomas and Ruth felt that the support they received from administration helped them to be a successful co-teaching pair. The administration provided support by trusting them to do their job in the way that the co-teachers felt was best for the success of their students. They also stated that the administration was quick to provide any materials they needed in their classroom. Thomas and Ruth also believed that their shared philosophy contributed to their success. They both believe that all students can learn and Ruth added, "If you expect more, you

will get more, and once you get your students to believe that they can achieve, they certainly will live up to the expectation of the teacher."

Cross-Case Analysis

After transcribing all of the interview questions and observational data, and identifying the themes of each case relating to the research questions guiding this study, I identified the merged findings of the cases for a cross-case analysis. Stake (2006) explained, "the multi-case research director starts with a quintain, arranges to study cases in terms of their own situational issues, interprets patterns within each case, and then analyzes cross-case findings to make assertions about the binding" (p. 10). The cross-case analysis assisted in finding patterns among the cases and led to the final assertions for this study. I established the themes of each case by first organizing the data collected from each individual interview and each focus group interview into categories using the interview questions as the category headings. I used the same method for the observational data and used the description headings from the observation form as the category headings. I used Stake's (2006) Theme and Content Worksheets (Appendices J and K) to find themes from each case relating to the research questions. Then in order to conduct a cross-case analysis, I used Stake's (2006) Merged Findings Worksheet (Appendix L). I used these recommended worksheets to assist in determining the final assertions for my study (Stake, 2006, p. 43, 45, 51).

Final Assertions

I established the final assertions by using the Theme-Based Assertions Worksheet (Appendix M). I listed each theme under a merged findings matrix and categorized the themes by content areas. Once the theme based assertions were established, I used the Assertions for the Final Report Worksheet (Appendix N) modified from Stake's methodology worksheets (Stake,

2006, p. 59, 73).   Twelve assertions were acquired from the cross-case analysis and applied to the themes of this study. The themes and assertions are as follows:

Theme One/Research Question One: How are instructional co-teaching approaches developed and refined by co-teaching partners? Assertion A: All of the co-teaching pairs interviewed, with the exclusion of Mary, had no prior knowledge or experience with co-teaching approaches before entering their co-teaching situations. The co-teaching pairs intuitively began utilizing the commonly accepted (as defined in this paper) co-teaching approaches. Anne explained, "Most of my training has really been just mostly hands-on, on-the-job experience, just getting to know my co-teachers." Most of the teachers were not aware that there were names for the co-teaching approaches. They just naturally found ways to teach together by trial and error, and then identified what worked and what did not work. The teachers utilized some or all of the co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, and supportive), and the determination of which approach was used depended on what was being taught, how the students responded, and the extent of the special education teachers' content knowledge. When they attended co-teaching training later, they discovered that they had been using the co-teaching approaches that were already defined.

Assertion B: The teachers did not create any new types of approaches or strategies, although a combination of approaches was used differently in one of the co-taught classrooms. Dennis and Kathy combined the one teach/one observe approach with the supportive approach to ensure that they reached all students in the classroom. Dennis taught the lesson while Kathy observed the students and made mental notes to address later in the class or after class with Dennis. At the same time, she used the supportive approach and assisted any struggling students.

Theme Two/Research Question Two: What specific practices are implemented in co-taught classrooms? Assertion C: High school literature/composition teachers utilized all of the co-teaching approaches excluding the teaming approach, and they used the supportive co-teaching approach most often. The supportive co-teaching approach allowed one teacher to provide instruction while the other teacher managed the behavior in class, allowing the other teacher to assist with struggling students. The supportive co-teaching approach was utilized when the special education teacher was not familiar with the content. Rachael stated that she and her partner used "mostly the supportive co-teaching because I was new to high school and new to the curriculum. So I just concentrated on some students who were behavior problems and who needed a little more individual instruction."

Assertion D: High school mathematics co-teachers used the teaming approach the most often. Teaming approach was used when both the teachers had content knowledge. This approach allowed both teachers to model more than one way to solve mathematical problems. The teaming approach simultaneously allowed the supportive approach to take place by allowing both teachers to take turns teaching and assisting students. In response to the teaming approach, Paul stated, "We both take responsibility in everything that takes place in the classroom…the students get different approaches from the teachers. They look at both teachers as equals and so they know that either teacher they go to, they're going to get help from."

Assertion E: Station teaching, although not the most used approach, is used often. Station teaching allowed the teachers to tier the instructional material on different levels. To incorporate tiering into their classroom, Tina and Anne used a lot of differentiated instruction and station teaching aligned itself with this type of instruction. Referring to her literature/composition classroom, Tina explained:

This classroom isn't one that's very teacher-centered. I think what works really well for students with disabilities is that this class is so differentiated. I mean one minute they are working independently, then we're teaching, and then they might be in a group, then they're walking around the room interviewing each other. You know, it's constant change, so there's never a day when anybody just stands up and teaches the whole time.

Assertion F: The alternative and one teach/one observe approaches are seldom used at the high school level, and they are only used by literature/composition teachers. When asked which co-teaching approach was the least effective, Mary and David both stated that one teach/one observe fit that category. Mary also stated that the supportive approach is not much better in a co-teaching math classroom. Mary explained that when the one teach/one observe approach was used in her co-taught classroom, it was because:

the other person didn't know much about the content and so they weren't able to answer questions. It was like I was the only one who could answer questions, so that was the least effective because it was kind of like me just being the only math teacher in there. And then the supportive co-teaching is not as effective as teaming but at least the other teacher's able to still help answer questions.

Assertion G: The parallel approach was used somewhat in both math and literature/composition classes. This approach allowed for both teachers to provide the same material in a different way to two different groups of students in the same room. The special education teacher would work with the struggling students while the general education teacher would work with the rest. Ruth stated that she preferred the parallel approach in her co-taught mathematics classroom because whichever approach she and Thomas were using, they could

switch over to the parallel approach when a group of students appeared to be struggling but the other students were ready to move on.

Assertion H: All co-teaching pairs used group work and peer tutoring to provide opportunities for dialogue between the students as well as between the students and teachers. Kathy explained:

There's a lot of group work. A lot of partner work. We've seen that be very successful with our, especially with our special needs students when they have other students to talk to about ideas with, they seem to do the work even better.

Theme Three/Research Question Three: What roles are assumed by each teacher participating in the co-teaching partnership? Assertion I: The general education teachers assumed the role of lead teacher in literature/composition co-taught classes. All three pairs of literature/composition co-teachers stated that the general education teacher was the lead teacher and the co-teacher took on more of a supportive role. The teachers attributed this fact to the special education teachers' lack of content knowledge. David explained:

It's like sometimes we get teachers who are special ed. teachers, you know? Now they're supposed to specialize in one content area or another, but they're not that strong in the curriculum. So it's almost like they get put in a co-lab [co-taught class] just to kind of almost be that parapro type of person.

Assertion J: Both the general education teachers and the special education teachers assumed the role of lead teacher in co-taught mathematics classrooms. The teachers attributed this fact to the special education teachers' knowledge of the content area. Mary stated that the teaming approach "is the most effective." In addition, when asked what the success of her class was attributed to, she explained:

I would say definitely the content. That he's familiar with the content. That's the biggest

difference, when, just for him to be able to explain things, and for me to be able to

explain things, and for both of us to be able to help the students.

Assertion K: The majority of the literature/composition general education teachers

planned the lessons, while the special education teachers provided input and modified the

lessons. Anne stated:

I know that my role is really advisor to set up the lessons to meet the needs of the

students that are at a higher level and incorporating the lessons so that it's, well; it's a

tiered lesson so that students at every level can be able to meet the standard and possess

where it takes you. And usually I'm sharing that information with her and she's able to

provide insight, provide other suggestions, and help me with the planning process of

knowing, ok, well we need to do something for these students, otherwise we are going to

lose them.

Theme Four/Research Question Four: What do high school content area co-teachers

attribute to their success as partners and instructors? Assertion L: The success of the co-

taught classrooms is attributed to several factors: the co-teachers' shared philosophies, mutual

respect, flexibility, open-mindedness, patience, structure, communication, teamwork,

administrative support, the use of differentiated instruction, and the content knowledge of both

teachers. Anne and Tina attributed their success to their mutual respect of one another, their

open-mindedness, their use of differentiated instruction, and their ability to communicate openly

and honestly with one another. Paul and Mary attributed their success to their mutual respect of

one another, the administrative support received, and the content knowledge shared by both

teachers. David and Rachael attributed their success to their mutual respect of one another and

the structure of the classroom. Thomas and Ruth attributed their success to their mutual respect of one another, patience, and their teamwork effort. Dennis and Kathy attributed their success to their flexibility, teamwork, open-mindedness, and communication.

Summary

All participants in this study shared the same educational philosophy that all children can learn. Although the majority of participants in this study were not familiar with co-teaching approaches when they entered co-teaching partnerships, they discovered the approaches through trial and error until they found what worked best for them. Supportive co-teaching was used most often in literature/composition, and teaming was used often in mathematics. In the literature/composition classrooms, the general education teachers assumed the role of lead teacher while in the mathematics classrooms, both the general education teachers and the special education teachers assumed the role of lead teacher. The co-teachers mainly attributed their success to mutual respect, open-mindedness, and communication.

CHAPTER FIVE: DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

Overview

In this chapter, I discuss the findings of this study relative to the theoretical framework and the research questions. Prior studies on inclusionary services to student with disabilities often showed the lack of sufficient services provided to these students (Scheeler et al., 2010; Scruggs et al., 2007). Another area of concern for inclusionary co-teaching environments was the relationships between co-teaching partners (Mastropieri et al., 2005). The purpose of this multi-case study was to examine the instructional practices of successful inclusion co-teaching partnerships in the academic areas of mathematics and literature/composition in central Georgia high school classrooms. I present the conclusions, implications, and limitations of this study. In addition, I provide some recommendations for future research and a final summary of this chapter.

Summary of Findings

The purpose of this qualitative multi-case study was to identify and examine the co-teaching approaches and practices of successful co-teaching partnerships in literature/composition and mathematics classes at the high school level. The research questions that guided this study were:

1. How are instructional co-teaching approaches developed and refined by co-teaching partners at the high school level?

2. What specific practices are implemented in co-taught classrooms at the high school level?

3. What roles are assumed by each teacher participating in the co-teaching partnership?

4. What do high school content area co-teachers attribute to their success as partners and
   instructors?

The decision to select a qualitative multi-case study for my research model was to gain experiential knowledge in the area of co-teaching. Stake (2006) stated, "The study of situations reveals experiential knowledge, which is important to understand the quintain" (p. 12). Stake (2006) defined quintain as "an object or phenomenon or condition to be studied--a target, but not a bull's eye. In multicase study, it is the target collection" (p. 6). I wanted to examine and identify the co-teaching approaches and practices being used in successful high school mathematics and literature/composition co-taught environments which led to the identification of the quintain being the co-teaching approaches and practices of successful co-teaching partnerships in these subject-content areas. This qualitative multi-case study allowed me to conduct my research in five different co-teaching environments and gain insight from the experiences of 10 co-teachers through interviews and observations, thus providing the experiential knowledge I sought to answer the research questions guiding my study.

Qualitative research is a systematic process of examining and interpreting data and can be very time consuming and laborious. Unlike a quantitative study where larger samples validate the findings, a qualitative study must balance between having enough samples to reach a saturation point and having a superfluous amount of samples that would be impractical to analyze (Corbin & Strauss, 2008; Mason, 2010). Glesne (2011) stated that a study reaches theoretical saturation when "successive examination of sources yields redundancy and that the data you have seem complete and integrated" (p. 193). The data accumulated from the focus group interviews, individual interviews, and observations produced similar results and led to a saturation point in which I felt satisfied and confident enough to complete my study.

A total of 10 teachers, divided into pairs, participated in this study. Each pair of co-teachers represented one case study. I used participants who had been in a successful co-teaching partnership for at least one year. The success of co-teaching partnerships was based on two factors: a) the percentage of students with disabilities passing standardized tests was higher than the state of Georgia's percentage of students with disabilities passing standardized tests and b) the co-teachers share the same educational philosophy, work well together, share responsibilities and accountability, have clear plans and procedures, and have support of the administration or professional development (Friend, 2008a). Three pairs of co-teachers were in the content area of literature/composition and two pairs of co-teachers were in the content area of mathematics.

I collected data through open-ended focus group interview questions, open-ended individual interview questions, and observations. Each pair of co-teachers was considered as one separate case and each case was conducted individually, transcribed, and then analyzed before moving on to the next case. The five focus groups each consisted of a pair of co-teachers. All focus group interviews were conducted at each of the participants' own schools, except for one interview that was conducted via teleconference. The individual interviews were also conducted at each teacher's own school, except for one individual who requested to participate over the phone. As mentioned earlier, because two pairs of co-teachers were not currently teaching together, I was only able to observe three pairs of co-teachers in their learning environments. The observations conducted on those three separate cases consisted of one mathematics and two literature/composition classes. Each case was analyzed individually by using thematic worksheets suggested by Stake (2006) and then cross-case analyzed by using merged findings worksheets suggested by Stake (2006).

Through cross-case analysis of the data from focus group interviews, individual interviews, and observations, 12 assertions, previously listed in Chapter Four, emerged that related to the four research questions listed above. I modified and used Stake's (2006) theme-based worksheets to assist in analyzing the data (see Table 4).

Table 4

Twelve Assertions Relating to the Themes

Literature/Composition	Mathematics
Theme One: Development of Approaches	
Assertion A: No prior co-teaching training	No prior co-teaching training
Assertion B: No new approaches developed	No new approaches developed
Theme Two: Specific Practices	
Assertion C: Supportive approach used most	
Assertion D:	Teaming approach used most
Assertion E: Station teaching used often	Station teaching used often
Assertion F: Alternative seldom used	Alternative seldom used
One teach/one observe seldom used	One teach/one observe seldom used
Assertion G: Parallel used sometimes	Parallel used sometimes
Assertion H: Group work/peer tutoring/	Group work/peer tutoring/
Constant informal assessment/	Constant informal assessment/
Dialogue	Dialogue
Theme Three: Roles and Responsibilities	
Assertion I: Gen Ed teachers take lead role	
Assertion J:	Both teachers take lead roles
Assertion K: Gen Ed teachers plan lessons	Both teachers plan
Theme Four: Success Attributed To	
Assertion L: Open-mindedness, communication,	Open-mindedness, communication,
structure, differentiated instruction,	content knowledge, structure,
shared philosophy, teamwork,	shared philosophy, teamwork,
mutual respect, cooperation,	mutual respect, cooperation,
flexibility, and administrative support	flexibility, administrative support,
	differentiated instruction, positiveness,
	and preparedness

Two of the assertions that emerged related to the first research question asking how are

instructional co-teaching approaches developed and refined by co-teaching partners at the high

school level were: Assertion A: without prior knowledge, teachers developed co-teaching

approaches similar to co-teaching approaches that were previously defined and Assertion B: the teachers did not create any types of approaches or strategies that were not already in place.

The next six assertions emerged related to the second research question which asked what specific practices are implemented in co-taught classrooms at the high school level: Assertion C: high school literature/composition co-teachers used the supportive approach more than the other approaches, Assertion D: high school mathematics teachers used the teaming approach more than the other approaches, Assertion E: station teaching was used often to allow the teachers to tier the instructional material, Assertion F: the one teach/one observe and the alternative co-teaching approaches are the least used at the high school level, Assertion G: the parallel approach is used to allow both teachers to work with groups on different levels, and Assertion H: group work and peer tutoring are used to provide opportunities for dialogue between the students as well as between the students and teachers.

Four assertions emerged related to the third research question which addressed what roles are assumed by each teacher participating in the co-teaching partnership: Assertion I: in high school literature/composition classes, the general education teachers assumed the role of lead teacher, Assertion J: in high school mathematics classes, both the general education teachers and the special education teachers assumed and shared the role of lead teacher, and Assertion K: the majority of high school literature/composition general education teachers planned lessons while special education teachers provided the modifications of the lessons.

The last assertion that emerged related to the fourth research question asking what do high school content area co-teachers attribute to their success as partners and instructors was: Assertion L: the success of the co-teaching partnerships is attributed to shared philosophies, mutual respect, flexibility, open-mindedness, patience, structure, communication, teamwork,

administrative support, the use of differentiated instruction, and the content knowledge of both teachers.

Discussion

I utilized a qualitative multi-case study design and created central research questions to guide my study. This qualitative multi-case study provided an avenue to identify and examine the instructional practices of co-teaching partnerships through focus group interviews, individual interviews, and observations. The interviews and observations produced data that identified co-teaching practices used to provide children with the social interactions needed to be successful in academic areas. Answers to the central questions of this study emerged from the data gathered through interviews and observations and led to the identification of the previously listed twelve assertions. The assertions created from this study appear to support Vygotsyky's (1978) socio-cultural theory and Bandura's (1986) social cognitive theory. The theories suggested that children learn and retain more information when they engage in social interactions with their peers and teachers. The assertions created from this study also appear to support Schutz's (1958, 1994) interpersonal behavior theory that stressed the importance of working relationships between co-workers.

In support of Vygotsky's (1978) socio-cultural theory and Bandura's (1986) social cognitive theory, the findings from the observations of co-teaching pairs in this study suggested that the use of various co-teaching approaches provide ways for students to interact with their peers as well as their teachers. The co-teaching environments, utilizing any of the approaches, provided assistance to the students through two available adults. The co-teaching environments allowed students with disabilities to interact with their peers without disabilities in the general education setting. In particular, this study found that station teaching not only allowed for

interactions between the students but also encouraged peer tutoring. Moorehead and Grillo (2013) are proponents for the station teaching approach in mathematics classrooms. Moorehead and Grillo (2013) explained:

> Station teaching provides co-teachers with both time and a method to successfully instruct smaller groups of students in the use of tools and content in any subject area, but is particularly well suited to mathematics and science. By using stations, both teachers are able to infuse best practices, targeted supports, and ongoing dialogue (divergent, inquiry, and civil discourse) into instruction. (p. 50)

The findings from the observations in this multi-case study appear to support Vygotsky's (1978) socio-cultural theory and Bandura's (1986) social cognitive theory that cognitive development depends substantially on social interaction. Vygotsky (1978) and Bandura (1986) both believed that children have the potential to learn more when they are assisted by their teachers and/or their more competent peers. The findings from the observational data in this study show that student/teacher and student/student interactions occur across various co-teaching approaches used by the teachers.

The findings from this study also appear to support Schutz's (1958) FIRO theory and Schutz's (1994) adapted FIRO theory that includes openness between co-workers. This study focused on the working relationships of the co-teaching partners and what roles they assumed when determining which co-teaching approaches would be used. Schutz (1958) explained that working relationships are built on the interpersonal needs involving inclusion, control, and affection. Murawski and Deiker (2008) stated that co-teachers often find themselves in co-teaching relationships in which they did not volunteer. To become a successful co-teaching pair, Murawski and Deiker (2008) suggested that the teachers must communicate openly and identify

the co-teaching approaches that would work best for them. The findings from this study discovered that the co-teaching model affords various opportunities for the teachers to comfortably fit into one or more of the approaches to meet their interpersonal needs and create successful teaching partnerships. Although the teachers were not always aware of the specific co-teaching approaches, they intuitively discovered what worked best for their unique relationship. The determination of which approach to use was mainly based on the teachers' knowledge of the subject content and the role most comfortable for each teacher. This study found that the teachers openly communicated with each other regarding their strengths and weaknesses and regarding the best choice of co-teaching approaches for themselves as well as the students. The findings from this study appear to support Schutz (1994), stressing the importance of openness to build successful working relationships.

The findings from this study also supported research (Cramer et al., 2010; Fenty & McDuffie-Landrum, 2011) showing that co-teachers are not receiving necessary co-teaching training. Cramer et al. (2010) explained, "Historically teacher preparation programs are separated into regular and special education programs and thus have not provided pre-service teachers with the intensive training and experience they need to be effective collaborators in planning, teaching, and evaluating instruction" (p. 71). Nine of the participants in this study had no prior co-teaching training and stated that it would have been helpful to their co-teaching relationship to have the prior training.

In addition, this study supported a study by Fenty and McDuffie-Landrum (2011) which identified a lack of common planning time for co-teachers. Fenty and McDuffie-Landrum (2011) found that the amount of time teachers spent co-planning impacted their co-teaching environments. In my study, I found that the teachers agreed that if they had more planning time

together their co-teaching strategies would be stronger and more beneficial to the students as well as the teachers.

Implications

The implications from this study provide practical guidelines and strategies for high school co-teachers in the areas of literature/composition and mathematics. The findings from this study can assist beginning co-teachers as they search for approaches that would be beneficial for the delivery of instruction in their specific content areas and the interactions between teachers and their students as well as between students and their peers. In light of this, I developed some recommendations for new co-teachers that is found later in this document. The implications from this study can also assist in building successful co-teaching relationships. These implications can assist administrators in selecting potentially successful co-teaching partners and in demonstrating the need for creating workshops to help teachers as they embark on co-teaching assignments. The implications from this study can also assist administrators in creating more effective co-teaching partnerships by scheduling the individual teacher's day to include common planning periods or scheduling multiple classes together. The findings from this study directly correlate with the central research questions (themes) of this study.

The findings from this study provide implications that will assist in identifying which approach works best in literature/composition and mathematics co-teaching environments. This study found that the supportive co-teaching approach is the most used approach in high school literature/composition co-teaching classrooms. As noted in the study, the teachers found that this approach was useful when the special education teachers were not familiar with the literature content. The teachers also reported that the supportive co-teaching approach was beneficial to both the teachers and the students in that it allowed for one teacher to assist struggling students

or manage behavior while the other teacher provided instruction to the rest of the class. This follows what Friend (2008a), Murawski (2009), and Villa et al. (2013) described when they explained the benefits of the supportive co-teaching approach.

I also found that the teaming approach is the most used approach in high school mathematics co-teaching classrooms. Also noted in the study, the mathematics teachers reported that the teaming approach is the most effective approach in the mathematics co-teaching classroom as it allows for both teachers to deliver the instruction while providing assistance to the students in the classroom. One of the benefits of the teaming approach includes opportunities for students to observe the instruction of content modeled in different ways that allows the student to choose which method would work best for them when solving mathematical problems. Another benefit allows students to observe the teachers modeling a working relationship where both teachers take a lead role in the instruction of material (Friend, 2008a; Murawski, 2009). Students learn by observing proper interaction, cooperation, and teamwork between adults (Vygotsky, 1978). Friend (2008a) and Murawski (2009) agree that the working relationship between co-teachers is an important component in the cognitive growth of students. As stated earlier in the study, it is important to note that teaming only works when both teachers are familiar with the content.

The implications from this study can also provide ways for co-teachers to produce co-teaching environments that are rich in social interactions for students. All of the co-teaching approaches named in this study provide opportunities for dialogue between the teachers and the students, and one of the approaches provides an opportunity for dialogue between the students. Research has shown that social interactions are important for children's cognitive development (Bandura, 1986; Vygotsky, 1978). When combined with the supportive approach, the one

teach/one observe co-teaching approach provides opportunities for observing teachers to communicate with students when they notice particular students who are struggling with the material. Parallel and alternative co-teaching approaches allow both teachers to interact with the students in different parts of the classroom or in different classrooms (Conderman, Bresnahan, & Pedersen, 2009; Friend, 2008a; Murawski, 2009; Villa et al., 2013). The supportive co-teaching approach allows one teacher to interact with struggling students as the other teacher continues to provide instruction to the remainder of the students in the classroom (Friend, 2008a; Murawski, 2009). The station teaching approach is the only approach that lends itself to provide opportunities for students to interact with each other. In the station teaching approach, the students are allowed to work with each other and provide peer tutoring when and where it is needed.

The implications from this study can assist teachers in building successful co-teaching relationships. This study found that teachers attributed their success to having open minds, mutual respect for one another, flexibility, consistency, a team relationship, honest communication, and a supportive administration. The study found that general education teachers needed to have an open mind when special education teachers come into their classrooms as co-teaching partners. The general education teachers need to be willing to relinquish some of their control and allow someone else to share the classroom responsibilities. Both general education and special education teachers should build a mutual respect for one another by learning about each other and learning about each other's teaching styles and educational philosophies. The teachers need to be flexible by adapting to different roles in the classroom or by modifying assignments to fit the needs of the students. The teachers need to be consistent in classroom procedures, classroom management, and student discipline. The co-

teaching partners should view themselves as a team and should model mutual respect and cooperation to the students. Open, honest, and frank communication is necessary for the teachers to build a successful relationship (Conderman, 2011). They should feel free to express whatever is needed to be successful with their co-teaching partner. An additional tool for success is the support of the co-teachers' administration. Administrations should pair teachers who share the same educational philosophy and who apply similar instructional practices. The administration should also schedule common planning periods and more co-teaching classes for the pair of co-teachers to work together and collaborate with one another.

Further implications from this study can assist administrators in supporting the co-teachers through providing co-teaching training workshops. The study found that there was no prior formal or informal type of training in co-teaching for these teachers entering the area of co-teaching. The teachers in this study revealed that although it would be helpful to receive some type of training before entering the co-teaching relationship, in-school workshops would still be highly beneficial in building successful co-teaching partnerships. Furthermore, undergraduate college level classes could be designed to prepare teachers for working in co-teaching environments. This study also found that teachers believed that the following topics should be taught before teachers enter a co-teaching environment: (a) communication between partners, (b) co-teaching approaches, (c) role definition, and (d) content knowledge.

Recommendations for New Co-Teachers

After completing the interviews with the co-teachers participating in this study, I realized how valuable the data would be to teachers entering the co-teaching field for the first time. I found in this study that different co-teaching approaches can work in different situations. I recommend that high school mathematics co-teachers should seriously consider mainly using the

teaming approach if both teachers are familiar with the content. The students appear to benefit from this approach when both teachers are able to teach the content and assist the students.   The students are able to see that there is more than one way to solve mathematical problems and they can choose which teacher's method works best for them. It is important to note that the mathematics co-teachers participating in this study were all highly-qualified to teach high school mathematics and according to Dieker and Berg (2002) and Maccini and Gagnon (2006), usually high school special education teachers are not trained in mathematics and have to rely on the general education teacher to provide the instruction. If the special education teachers are not qualified to provide high school mathematics instruction, they will need to use a different co-teaching approach than teaming.

Although Friend (2008a) suggested that the supportive co-teaching approach should be the least used approach, I recommend that high school literature/composition co-teachers utilize this approach as much as possible.   Friend (2008a) explained why supportive co-teaching (which she refers to as one teaching/one assisting) should be used the least:

> Of all the co-teaching approaches, however, one teaching, one assisting has the greatest potential to be over-used and abused. In fact, this approach to co-teaching is the one that co-teaching supervisors and observers worry about the most. In too many classrooms, the general education teacher continues to teach as she did in a one-teacher class while the special educator works either as a passive partner who waits for instruction to finish before helping students who struggle to learn or as a highly paid teaching assistant. Even if the teachers reverse roles occasionally (although when this approach is used too frequently, that generally is not the case), the problem is not diminished. The classroom

still has just one teacher, thus eliminating the entire wealth of instructional possibilities

that would otherwise be possible. (p. 79)

Through my study, I found that, if used properly, the supportive approach is quite

effective for literature/composition classes. The participants in my study agreed that this

approach works best for students with disabilities in this content area at the high school level.

The special education teachers suggested that this approach works best because the general

education teacher is the expert in the content area and the special education teacher is the expert

in the modification of the content to meet the individual student's needs. The participants not

only modeled, but suggested that both teachers take an active role in the classroom by one

teacher providing instruction through a lead teacher role and one teacher providing instruction

through a supportive teacher role--not just providing support to the lead teacher but providing

support to the students as well. I would caution co-teachers to be careful not to abuse the

supportive co-teaching approach by one teacher taking a completely passive role in the

classroom.

The participants in this study were excited and eager to provide advice to new co-

teachers. A recurring piece of advice was to be open-minded and positive (Murawski, 2008).

The participants suggested that general education teachers should be open to the special

education teacher by sharing their room, the responsibilities, and viewing the situation in a

positive manner. The participants advised that both the general education and special education

teachers possess a wealth of knowledge, whether it is the content knowledge or the knowledge of

how to reach all students in the classroom, and they should share that knowledge with each other

and be open to each other's ideas. The participants also believed that the co-teaching

partnerships should discuss and get to know each other's educational philosophy, teaching style,

weaknesses, and strengths. Knowing what to expect from each person in the co-teaching relationship will avoid complications that could arise in this area. The participants suggested the co-teachers need to think of themselves as a team and communicate with each other frankly and honestly. This is supported by Conderman (2011), who suggested that co-teaching partners provide honest communication with each other from the beginning stages of the partnership. The participants suggested that co-teachers also need to be flexible, patient, and that they should share the control of the classroom (Friend, 2008a; Murawski, 2008). This advice from the teachers directly relates to the fourth research question of this study regarding what teachers attribute to their success as partners and instructors.

<div align="center">**Recommendations for Administrators**</div>

I suggest to administrators to thoughtfully consider placing teachers together in co-teaching relationships instead of randomly placing two teachers together. The administration should ensure that both teachers share the same educational philosophies and teaching styles. They should provide opportunities for co-teaching training prior to working in the co-teaching environment together. The training workshops could model how the teachers should work together and plan together to ensure success in their classrooms. If the teachers are aware of the co-teaching approaches before they begin teaching together, they can plan accordingly. The administrators should also ensure that the co-teaching pairs have adequate planning time allotted for lesson planning and co-teaching strategy planning.

<div align="center">**Limitations**</div>

Limitations are potential weaknesses related to the sample, design, methodology, or analysis of the study (Moustakas, 1994). The most obvious limitations to my study were the size and location of my sample. Although, according to Yin (2009), the five pairs of co-teachers were

sufficient to conduct this study, I was limited in the ability to draw conclusions from data obtained from a much larger group. In addition, my study was limited in that it took place in one school district and my findings can only be generalized to similar school districts.

Another limitation to my study was only using the two high school academic areas of literature/composition and mathematics. The findings of my study only related to those two areas and made it impossible to generalize to the academic areas of social studies and science co-teaching environments.

In addition, my study was limited to the participants' interpretations of their co-teaching experiences. I had to trust that the participants' answers to my interview questions were true and not what they believed I wanted to hear. Seidman (2006) stated:

> Although the interviewer can strive to have the meaning being made in the interview as much a function of the participant's reconstruction and reflection as possible, the interviewer must nevertheless recognize that the meaning is, to some degree, a function of the participant's interaction with the interviewer. (p. 23)

Also, if I had used other participants in my study, I may have obtained contradictory data, or even if I had interviewed the participants at another time during the school year, the participants may have presented a different perspective in their answers to the interview questions (Seidman, 2006).

Although direct observation of some of the participants in my study provided valuable data, my study was limited to the reflexivity of the observation. Yin (2009) explained that participants may act differently when they know they are being observed. I had to trust that the participants in my study were acting naturally, as if not under observation. Yin (2009) also suggested that the researcher's observation of the environment may be biased "due to participant-

observer's manipulation of events" (p. 102). This means that not only the participants could have been acting differently, but the researcher could be interpreting the events incorrectly.

A fifth and final limitation in my study was related to the lack of qualifying participants for my study. Although I was able to procure five pairs of co-teachers, I was only able to observe three of the co-teaching partners, as two of the pairs were not teaching together anymore. Without the observations, my findings had to rely heavily on the data from the focus group interviews and the individual interviews. It would have been helpful to observe all five pairs of co-teachers in their co-teaching environments, because observations increase validity (Corbin & Strauss, 2008; Stake, 2006).

Recommendations for Future Research

This study provided the educational community with information that will be helpful to co-teaching partnerships at the high school level in the areas of literature/composition and mathematics. The need to examine successful co-teaching partnerships is important as the number of co-teaching environments increases. When replicating this study, future researchers should use a larger sample size and/or other content areas to determine if the findings from this study can be generalized to other successful co-teaching partnerships. One area that could be examined in future studies is how the content knowledge level of special education teachers affects the choice of co-teaching approaches. Another area that the researcher could examine is the students' perspectives on which co-teaching approaches are most effective in the co-teaching classrooms. In addition, to determine the effectiveness of co-teaching vs. small group instruction, future quantitative research studies could compare the standardized test scores of students with disabilities receiving instruction in co-taught classroom to those students with disabilities receiving instruction in small group (special education) classrooms. A comparison

study could also be conducted in future studies to ascertain the differences in approaches used in co-teaching classes that are not successful and those that are successful, and possibly the causes of the different results.

Summary

The research from this study found that the majority of participants were not trained to co-teach before they entered a co-teaching partnership and were left to discover and develop co-teaching practices on their own. Although all of the identified co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, and supportive) were used in the participants' co-teaching environments, some approaches were more prominent than others. The research in this study identified that high school literature/composition co-teachers use the supportive co-teaching approach more often than other approaches. The high school literature/composition co-teachers used the supportive approach more often because the special education teachers were not familiar with the content and the supportive approach allowed one teacher to provide instruction while the other teacher assisted students. The high school mathematics co-teachers used the teaming approach more often than the other approaches. The reasons the mathematics co-teachers mostly used the teaming approach were twofold: 1) the special education teachers possessed the content knowledge and 2) teaming provided opportunities for the students to see more than one method to solve math problems. The mathematics teachers also used parallel teaching to divide the class and make smaller groups, which made it possible for the teachers and students to communicate with one another and for the teachers to provide more individualized assistance to the students.

I found that the least used co-teaching approaches at the high school level were one teach/one observe and alternative. The one teach/one observe approach is not favorable for one

of the teachers to provide assistance because while one teacher provides instruction to the class, the other teacher is taking anecdotal notes about the students. However, one pair of participants combined the one teach/one observe approach with the supportive approach in order to provide the needed assistance to students while still allowing that teacher to gather anecdotal data. The participants in this study reported that they did not use the alternative approach because it caused a segregation of the students when the special education teacher took one group of students out of the general education setting to another location.

I also found that in the literature/composition co-teaching partnerships, the general education teachers assumed the role of lead teacher in the supportive approach, while the special education teachers assumed the role of the supportive teacher. In mathematics co-teaching partnerships, both the general education teachers and the special education teachers assumed the role of lead teacher in the teaming approach. In the non-instructional issues in both literature/composition and mathematics classes, the general education teacher was labeled the teacher of record for grading and attendance, but both the general education and the special education teachers shared the responsibility of behavior management. The research from this study also discovered that overall the teachers attributed their success to open-mindedness, flexibility, mutual respect, consistency, teamwork, communication, administrative support, and content knowledge.

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APPENDIX A: IRB APPLICATION TO CONDUCT RESEARCH

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

April 29, 2014

Patti A. Cleaveland
IRB Approval 1851.042914: A Multi-Case Study Examining Co-Teaching
Approaches and Practices in High School Mathematics and Literature/Composition
Classes

Dear Patti,

We are pleased to inform you that your above study has been approved by the
Liberty IRB. This approval is extended to you for one year. If data collection
proceeds past one year, or if you make changes in the methodology as it pertains to
human subjects, you must submit an appropriate update form to the IRB. The forms
for these cases were attached to your approval email.

Please retain this letter for your records. Also, if you are conducting research as part of the
requirements for a master's thesis or doctoral dissertation, this approval letter should be
included as an appendix to your completed thesis or dissertation.

Thank you for your cooperation with the IRB, and we wish you well with your
research project.

Sincerely,

Fernando Garzon, Psy.D.
Professor, IRB Chair
Counseling

(434) 592-4054

LIBERTY
UNIVERSITY.

APPENDIX B: PERMISSION FROM MY PRINICIPAL TO CONDUCT RESEARCH

A Multi-Case Study Examining the Co-Teaching Model at the High School Level

Patti A. Cleaveland

Liberty University

Department of Education

As part of my doctoral dissertation research, I am requesting permission to conduct a multi-case qualitative study examining the co-teaching model at one or more of the district's high schools. This letter explains the purpose, procedures, benefits and risks, and confidentiality measures of the study.

Purpose:

The purpose of this study is to examine the practices of co-teaching partnerships in the content areas of mathematics and literature/composition classes at the high school level. The intent of this study is to identify what co-teaching partners perceive as successful co-teaching approaches and instructional practices that would be useful for other academic high school level co-teachers.

Procedures:

Upon approval from the Liberty University Institutional Review Board, the school district superintendent, and the school principals, participants will be selected based on the recommendation of the Director of Student Services by identifying co-teaching partnerships that meet the following criteria:

1. The co-teaching partnership consists of one general education and one special education teacher
2. The co-teachers have been working together in a co-teaching relationship for at least one year
3. The co-teaching relationship is successful, determined by the shared philosophy, prerequisites, collaboration, clear plans and procedures, and the supportive context of the co-teaching partners. A shared philosophy reflects the co-teachers priorities and beliefs. Prerequisites include qualities of working well with others and understanding the educational process. Collaboration refers to the sharing of responsibility and accountability. Clear plans and procedures address the commitment to maintain rigorous standards. The supportive context is indicated by the support and commitment of administration, and the teachers' participation in professional development of co-teaching practices.

The co-teachers will be asked to participate in the study and will be provided with forms to procure their consent to participate. Participation in this study is voluntary.

Data will be collected through the following methods:

1. Focus group interviews with each pair of co-teachers at their own school. Each interview will be audio-recorded for transcription purposes.
2. Individual interviews with each participant. The interviews will be audio-recorded for transcription purposes.
3. Observations of each co-teaching partnership. The observations will be conducted as one scheduled and one unannounced visit.

Benefits and Risks:

The risks involved in this study are quite minimal. There is the slight possibility of interruption during the interviews and/or observations, and there is the possibility that some of the study's participants may know each other. There are no other risks anticipated in this study.

Participation in this study is valuable as it will benefit all high school teachers who are involved in co-teaching assignments in content areas. The data gathered from the expertise of successful co-teaching partners regarding co-teaching approaches and practices will help to improve co-teaching practices at the high school level, not only in this school district, but in other school districts as well.

Confidentiality:

The confidentiality in this study will be preserved through the use of pseudonyms for the participants and the schools. The records and data will be stored securely and will be destroyed after three years from completion of this study.

Contact Information:

The researcher conducting this study is: Patti A. Cleaveland. If you have questions or concerns regarding this study, please contact me at (478)230-3795 or patti.cleaveland@hcbe.net. You may also contact my dissertation chairperson, Dr. Gail Collins at (423)667-4855.

You will be provided with a copy of this consent form to keep for your records.

Statement of Consent

I have read the above information and grant permission for the researcher to conduct this study in our school district, upon the approval of the Liberty University Institutional Review Board.

Signature: _____ Date: _____

Signature of Researcher: _____ Date: _____

APPENDIX C: PRINCIPAL CONSENT

Date:

Dear ----,

This letter is to formally request permission to conduct a research study at your school. I am currently employed as a special education teacher at ------ High School, and this study fulfills the requirement part of my doctoral work at Liberty University. I have procured approval from ----- ----- the ------ County Schools Superintendent.

The purpose of this study is to examine and identify what co-teachers perceive to be successful co-teaching practices in the content areas of mathematics and literature/composition at the high school level. The results will be used to assist co-teachers in the improvement of co-teaching practices at the high school level. The teachers who will participate in the study will be chosen from your school by ----- -----, the Director of Student Services in ----- County:

Data will be collected through the following methods:

1. Focus group interviews with each pair of co-teachers at own school. Each interview will be audio-recorded for transcription purposes.
2. Individual interviews with each participant. The interviews will be audio-recorded for transcription purposes.
3. Observations of each co-teaching partnership. The observations will take place in two separate co-teaching periods.

I will ensure confidentiality of the teachers and the school by using pseudonyms on the interview transcripts and written reports. Please let me know if you will permit this study to be conducted in your school. After I receive your consent, I will e-mail the teachers for their consent to participate in this study.

Sincerely,

Patti Cleaveland

APPENDIX D: PERMISSION FROM SUPERINTENDENT TO CONDUCT RESEARCH

A Multi-Case Study Examining the Co-Teaching Model at the High School Level

Patti A. Cleaveland

Liberty University

Department of Education

As part of my doctoral dissertation research, I am requesting permission to conduct a multi-case qualitative study examining the co-teaching model at one or more of the district's high schools. This letter explains the purpose, procedures, benefits and risks, and confidentiality measures of the study.

Purpose:

The purpose of this study is to examine the practices of co-teaching partnerships in the content areas of mathematics and literature/composition classes at the high school level. The intent of this study is to identify what co-teaching partners perceive as successful co-teaching approaches and instructional practices that would be useful for other academic high school level co-teachers.

Procedures:

Upon approval from the Liberty University Institutional Review Board, the school district superintendent, and the school principals, participants will be selected based on the recommendation of the Director of Student Services by identifying co-teaching partnerships that meet the following criteria:

4. The co-teaching partnership consists of one general education and one special education teacher
5. The co-teachers have been working together in a co-teaching relationship for at least one year
6. The co-teaching relationship is successful, determined by the shared philosophy, prerequisites, collaboration, clear plans and procedures, and the supportive context of the co-teaching partners. A shared philosophy reflects the co-teachers priorities and beliefs. Prerequisites include qualities of working well with others and understanding the educational process. Collaboration refers to the sharing of responsibility and accountability. Clear plans and procedures address the commitment to maintain rigorous standards. The supportive context is indicated by the support and commitment of administration, and the teachers' participation in professional development of co-teaching practices.

The co-teachers will be asked to participate in the study and will be provided with forms to procure their consent to participate. Participation in this study is voluntary.

Data will be collected through the following methods:

4. Focus group interviews with each pair of co-teachers at their own school. Each interview will be audio-recorded for transcription purposes.
5. Individual interviews with each participant. The interviews will be audio-recorded for transcription purposes.
6. Observations of each co-teaching partnership. The observations will be conducted as one scheduled and one unannounced visit.

Benefits and Risks:

The risks involved in this study are quite minimal. There is the slight possibility of interruption during the interviews and/or observations, and there is the possibility that some of the study's participants may know each other. There are no other risks anticipated in this study.

Participation in this study is valuable as it will benefit all high school teachers who are involved in co-teaching assignments in content areas. The data gathered from the expertise of successful co-teaching partners regarding co-teaching approaches and practices will help to improve co-teaching practices at the high school level, not only in this school district, but in other school districts as well.

Confidentiality:

The confidentiality in this study will be preserved through the use of pseudonyms for the participants and the schools. The records and data will be stored securely and will be destroyed after three years from completion of this study.

Contact Information:

The researcher conducting this study is: Patti A. Cleaveland. If you have questions or concerns regarding this study, please contact me at (478)230-3795 or patti.cleaveland@hcbe.net. You may also contact my dissertation chairperson, Dr. Gail Collins at (423)667-4855.

You will be provided with a copy of this consent form to keep for your records.

Statement of Consent

I have read the above information and grant permission for the researcher to conduct this study in our school district, upon the approval of the Liberty University Institutional Review Board.

Signature: _____ Date: _____

Signature of Researcher: _____ Date: _____

APPENDIX E: REQUEST OF POTENTIAL PARTICIPANT LIST

Date:

Dear Director of Student Services,

This letter is to formally request a list of potential participants for a research study being conducted in the ------ County School District by Patti A. Cleaveland, a special education teacher at ------ High School, as part of her doctoral work at Liberty University. The research study has been approved by the ----- County Schools Superintendent. The study will require six pairs of co-teaching partners who meet the following criteria:

1. The co-teaching partnership consists of one general education and one special education teacher.
2. The co-teachers have been working together in a co-teaching relationship for at least one year.
3. The co-teaching relationship is successful, determined by the shared philosophy, prerequisites, collaboration, clear plans and procedures, and the supportive context of the co-teaching partners. A shared philosophy reflects the co-teachers priorities and beliefs. Prerequisites include qualities of working well with others and understanding the educational process. Collaboration refers to the sharing of responsibility and accountability. Clear plans and procedures address the commitment to maintain rigorous standards. The supportive context is indicated by the support and commitment of administration, and the teachers' participation in professional development of co-teaching practices.

The purpose of the study is to examine and identify effective co-teaching practices in content areas at the high school level. The results will be used to assist co-teachers in the improvement of co-teaching practices at the high school level.

Data will be collected through the following methods:

1. Individual interviews with each participant. The interviews will be audio-recorded for transcription purposes.
2. Observations of each co-teaching partnership. The observations will take place in two separate co-teaching periods.
3. Focus group interview with all participants. An interview with all of the co-teaching partners will be conducted at a centrally located high school. The interview will be audio-recorded for transcription purposes.

I will ensure confidentiality of the teachers and the schools by using pseudonyms on the interview transcripts and written reports.

Please provide me with a list of potential candidates for this study in the academic areas of mathematics and literature/composition.

I can be contacted at (478)230-3795 or patti.cleaveland@hcbe.net. You may also contact my dissertation chairperson, Dr. Gail Collins at (423)667-4855. Thank you for your timely consideration in this matter.

Sincerely,

Patti Cleaveland

APPENDIX F: CONSENT FORM FOR PARTICIPANTS

CONSENT FORM FOR PARTICIPANTS

A Multi-Case Study Examining the Co-Teaching Model at the High School Level

Patti A. Cleaveland

Liberty University

Department of Education

You are invited to participate in a research study examining the co-teaching approaches and practices utilized in content areas at the high school level. You were selected as a possible participant due to the Director of Student Services' acknowledgement of your success in a co-teaching partnership. Please read this form and ask any questions you may have before agreeing to participate in the study.

This study is being conducted by Patti A. Cleaveland who is a doctoral student from Liberty University in Lynchburg, Virginia.

Background Information:

The purpose of this study is to examine the practices of successful inclusionary co-teaching partnerships in the content areas of mathematics and literature/composition classes at the high school level. The intent of this study is to identify successful co-teaching approaches and instructional practices that would be useful for other academic high school level co-teachers.

Procedures:

If you agree to participate in this study, you will be asked to take part in an individual interview, allow me to observe you in the co-teaching environment, and take part in a focus group interview including a total of six of pairs co-teaching partners from the school district. The interviews will be audio-taped and will consist of open-ended questions regarding your current co-teaching practices. You will have an opportunity to review the transcript once completed.

Benefits and Risks:

Your participation in this study is valuable as it will benefit all high school teachers who are involved in co-teaching assignments in content areas. The data gathered from your expertise in the area of effective co-teaching approaches and practices will help to improve co-teaching practices at the high school level, not only in your county, but in other counties as well.

The risks involved in this study are quite minimal. There is the slight possibility of interruption during the interviews and/or observations, and there is the possibility that some of the study's participants may know each other. There are no other risks anticipated in this study. All data gathered from interviews and observations will be confidential, and the study will be conducted in a professional and ethical manner.

Confidentiality:

Your confidentiality will be preserved through the use of pseudonyms for you and your school. The records and data will be stored securely and will be destroyed after three years from completion of this study.

Voluntary Nature of the Study:

Your participation in this study is strictly voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University, the researcher, or with your school district. If you decide to participate, you are free to refrain from answering certain questions, and you are free to withdraw at any time. If you withdraw from the study, the data gathered from you will be destroyed immediately.

Contacts and Questions:

The researcher conducting the study is Patti A. Cleaveland. If you have questions, please contact me at (478)230-3795 or at patti.cleaveland@hcbe.net. You may also contact my dissertation chairperson, Dr. Gail Collins, at (423)667-4855 or glcollins@liberty.edu.

You will receive a copy of this information to keep for your records.

Statement of Consent:

I have read and understood the above information. If needed, I have asked questions and have received answers. I consent to participate in this study.

Signature: _____ Date: _____

Signature of Researcher: _____ Date: _____

APPENDIX G: FOCUS GROUP INTERVIEW

1. What educational philosophy do you share? In other words what are your priorities and beliefs in the educational process?

2. To what do you attribute your success in the co-teaching classroom?

3. Which co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, or supportive) do you feel is most effective for your content area?

4. In what ways do you share responsibilities?

5. What are some of the plans and procedures you use in your classroom?

6. How do you provide for opportunities for dialogue in your classroom between students as well as between the teachers and students?

7. How does the administration provide support for your co-teaching environment?

8. What improvements can be made to your co-teaching classroom?

9. What advice can you provide for teachers who are entering the field of co-teaching?

10. What would your ideal co-teaching situation resemble?

11. If a co-teaching training seminar is created, what areas of co-teaching should be covered?

APPENDIX H: INDIVIDUAL INTERVIEW WITH CO-TEACHER

Name: _____

Position: _____

Years of Co-Teaching Experience: _____

1. What type of co-teaching training have you received prior to or during your co-teaching experience?

2. Which of the six co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, or supportive) have you used in your classroom?

3. Which co-teaching approaches have been successful in your co-teaching classroom?

4. Which co-teaching approaches have not been successful in your co-teaching classroom? Why?

5. Do you have clearly defined roles and responsibilities? If so, What?

6. How often and when do you collaborate (plan) with your co-teaching partner?

7. What do you focus on when collaborating with your co-teaching partner?

8. What part do you play in the planning of the lessons?

9. How is behavior management handled in your co-teaching classrooms?

10. What types of strategies do you and your co-teacher use to reach all students in the co-teaching classroom?

11. To what do you attribute the success of your co-teaching classroom?

12. Is there anything you would like to add to the questions I asked?

APPENDIX I: OBSERVATION FORM SAMPLE

Paul and Mary

Length of Activity: 55 Minutes October 15, 2015 Test Review	
Descriptive Notes	Reflective Notes
Description of the interactions between the general and special education teachers in the classroom.	At the beginning of class, Mary took attendance while Paul helped the students on a warm up which was a review of the work from the day before. During the class period, both Paul and Mary continuously walked around to see if students were having any problems doing the work and they gave each other non-verbal signals to communicate what was going on with different students. For example they gave each other thumbs up if things were good or thumbs down if things were not so good. Mary signaled Paul to let him know that she was going to the board to provide the formula for slope for the students. Paul went over to Mary to confer about a particular student who was not doing his work.
Description of the interactions between the co-teachers and the students, and/or the interactions between students and their peers. Include dialogue.	The students were allowed to ask each other questions and they appeared to feel very comfortable doing this, as well as asking either teacher for assistance. A student called on Paul for assistance but he was busy so the student called on Mary. Paul noticed that one of the students was off-task. Paul said, "(Student name), get back to work please." The students immediately went back to work. Paul went to the board and explained how

	to graph parent functions. Students were still confused so he explained in greater detail. He said, "Look at this graph. It is a line so it is called a linear function. The word line is in linear. Now look at this graph. Do you notice how it curves and does not cross over the x-axis? This is called an exponential function." Not all students were on-task. Some students got done early and worked on a stained glass project by graphing linear equations. Others finished their work but did not do anything else. Paul noticed after a few minutes and redirected the students to get them all on-task. Mary was assisting other students with a review in another area of the room. She explained, "The equation of a line is $y = mx + b$. The m is the slope and the b is the y intercept. How would you graph that?" One of the students asked another student, "How do you graph $y= ¾ x + 20$? I can't fit it in the graph." The other student said, "Try to do it on this kind of graphing paper." And offered a sheet of his own graphing paper to use. He also stated, "You can number it by two's if you want to instead of ones. That helps me a lot. Do you want me to show you?" He showed the student how to graph the problem.
Description of the co-teaching approaches being used.	The co-teaching approaches being used were teaming for most of the period but there was also a little of the supportive approach.
Does one teacher assume the bulk of the teaching? Is this always the case?	Both Paul and Mary were equally working. Neither one assumed the bulk of the teaching.
Description of the specific roles of each teacher.	Both teachers acted as the lead teacher in the classroom. The students had no idea who was the general education teacher or who was the special education teacher.

Description of the layout of the classroom.	The layout of the classroom was traditional rows and columns of desks facing the front of the room.
Description of how the lesson is being assessed.	Both teachers were informally assessing the students by asking questions as they walked around the room. The formal assessment was the next day in the form of a unit test.
Description of accommodations being used.	The accommodations being used on this day were individualized instruction and peer tutoring.

Modified Worksheet from Figure 7.5 (Creswell, 2007, p. 137)

APPENDIX J: WORKSHEET ONE

Worksheet One: Themes

Theme 1: How are instructional co-teaching approaches developed and refined by co-teaching partners?

Most of the teachers were not aware that there were names for the co-teaching approaches when they first started co-teaching. The teachers just naturally found ways to teach together by trial and error and identifying what worked and what did not. Once the teachers started receiving some training in co-teaching, they discovered that they were doing the approaches all along without even knowing. The teachers utilized all or some of the co-teaching approaches (one teach/one observe, station teaching, parallel teaching, alternative teaching, teaming, and supportive.) The determination of which approach was used was based on what was being taught, how the students would respond, and each teacher's knowledge of the content area. Dennis and Kathy combine the one teach/one observe and the supportive co-teaching approaches. Dennis is the teacher who provides instruction and Kathy observes the students and makes notes of where the problems are and addresses those situations later. She also assists any students when she sees that someone is struggling.

Theme 2: What specific practices are implemented in co-taught classrooms?

High school literature/composition teachers use the supportive co-teaching approach most often for the following reasons: a) one teacher can provide instruction while the other teacher manages the behavior in class, b) the special education teacher is not familiar with the content, and c) the co-teacher can assist struggling students while the other provides instruction.

The teaming approach is used most often in high school mathematics classes because when both teachers have the content knowledge they can model more than one way to solve math problems. The teaming approach simultaneously allows the supportive approach to take place. Mary stated that it is important to note that the co-teaching approaches in math only work when both teachers have full content knowledge, especially the teaming approach.

Two of the co-teaching pairs (literature/composition and math) used the station teaching approach often. The class is built around differentiated instruction and station teaching allows for use of tier levels. It also allows the students to get up and move around.

Only one pair of co-teachers (literature/composition) used the alternative approach. The alternative approach was used for review work and usually the special education teacher would take any of the struggling students to her room to receive a review of the material which she would break down for the students to have a better understanding. This same pair of co-teachers utilizes the one teach/one observe approach on a regular basis. The general education teacher provided the instruction and the special education teacher would observe the students to see who was struggling or who was a behavior problem.

The parallel approach was used sometimes in both literature/composition and math classes. This approach allowed both teachers to provide the same material in a different way to two groups of student in the same room. The special education teacher would work with the struggling students and the general education teacher would work with the rest of the class.

Theme 3: What roles are assumed by each teacher participating in the co-teaching partnership?

Although the general education teachers are responsible for the maintenance of the records for attendance and grading, the responsibility for behavior management in the classes was shared by both the general education teachers and the special education teachers.

The lesson planning was mainly done by the general education teachers in literature/composition but the special education teachers would provide input and modify the plans as needed. The lesson planning was mainly done through course team meetings for mathematics but both the special education teachers and the general education teachers worked together to modify the lessons.

For the actual roles during instruction, more often than not, the general education teachers in literature/composition assumed the role of lead teacher; however, in the mathematics classes, both the special education and general education teachers assumed the role of lead teacher.

Theme 4: What do high school content area co-teachers attribute to their success as partners and instructors?

Overall, the teachers attributed their success to open-mindedness, relaxed attitudes, mutual respect for one another, consistency, a team relationship, honest communication, content knowledge, and a supportive administration.

APPENDIX K: WORKSHEET TWO SAMPLE

Worksheet Two: Content Area
Content Area: _Literature/Composition David and Rachael_____

Overall Impressions of the Case: David and Rachael worked well together. They had a good rapport with one another. According to David, due to Rachael's lack of knowledge in the content area, it was probably best that the supportive approach was used.
Case Findings: David was clearly the lead teacher. Rachael was not familiar with the content. They shared the same philosophy that all students can learn and they both had high expectations for their students. They attributed their success together to a mutual respect for one another, the structure of the room, and their flexibility. Their preferred co-teaching approach was supportive co-teaching. David planned the lessons and took care of the record-keeping. Rachael gave input and tweaked the lessons when needed. To provide dialogue in the classroom, they did a lot of group work. Both felt that the administration did not provide enough support. Both felt that a common planning time and a longer amount of time to work together would help to make the co-teaching more effective. Their advice to new co-teachers was to be open-minded and flexible.
Relevance to Themes: Theme 1 _____   Theme 2 __X___   Theme 3 __X___   Theme 4 __X___
Uniqueness of Case: David and Rachael only worked together for one year. David had experience co-teaching for seven years. He left teaching to become an administrator at another school. When David and Rachael taught together, it was her first year as a high school

literature/composition teacher and she was not familiar with the content. She is now familiar with the content and plays a different role in her current co-teaching position. She stated that she does a lot more of the teaming approach now, but she still believes that the supportive approach works best in high school literature/composition classes.

Commentary:

David and Rachael were a successful co-teaching team. I believe that had they been working together for more than one year, they would have been even more successful with their co-teaching practices and their scores would have been even higher not only for the students with disabilities but for the general education students as well.

Multiple Case Study Analysis, Robert E. Stake. 2006. Copyright Guilford Press. Reprinted with the permission of The Guilford Press. Adapted from Worksheet 3.

APPENDIX L: WORKSHEET THREE - MERGED FINDINGS SAMPLE

Worksheet Three: Merged Findings
A Matrix on which to make Assertions for the Final Report

	THEMES			
CONTENT AREA: LITERATURE/COMPOSITION	1	2	3	4
Finding 1 Philosophy: If teachers and students are given the right tools, each student can learn.				X
Finding 2 Success Attributes To: Mutual respect, shared philosophies, structure, flexibility, teamwork, patience, communication, administrative support, open-mindedness, the use of differentiated instruction, and the content knowledge of both teachers.				X
Finding 3 Approaches Used: All approaches Supportive approach is used most often. Parallel approach comes in second. Kathy and Dennis also developed an approach by combining one teach/one observe and supportive approaches.	X	X		
Finding 4 Roles and Responsibilities: All three pairs of literature/composition teachers had the general education teacher as the lead teacher. The general education teacher was the teacher of record. Two pairs had the general education teacher in charge of lesson planning and the co-teachers assisted in modifying the			X	

lessons. One pair planned together.				
Finding 5Dialogue Opportunities: All three pairs used group work to provide opportunities for dialogue between the students.		X		
Finding 6 Administrative Support: Anne and Tina, and Dennis and Kathy both stated that administration provided support through co-teaching training. Dennis and Kathy stated that administration located their classrooms close together and that administration paired the co-teachers well.				X
Finding 7 Improvements: All literature/composition teachers said improvements could be made by having more planning time together.				X
Finding8 Development: Teachers were not aware of the co-teaching approaches until after they had been co-teaching awhile and then attended co-teaching where they learned that the strategies they were utilizing in their classrooms were already defined co-teaching approaches.	X			
Finding 9 Differentiated Instruction: Guided notes, frequent checking for understanding, class discussions, hands-on-activities,				X

manipulatives, thinking maps, cooperative groups, peer tutoring, videos, drawing, acting, writing, interviews, and audio-recordings.				
Finding 10 Advice for New Co-Teachers: Be open-minded, flexible, positive, and have open communication.				X

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APPENDIX M: WORKSHEET FOUR - THEME-BASED ASSERTIONS

Matrix for Generating Theme-Based Assertions from Merged Findings Rated Important

Merged Findings	Content Area	Themes
Theme One: Instructional co-teaching practices were developed and refined by the teachers when they were first placed in co-teaching situations. They had not received any prior training and they developed strategies that worked in their classrooms to discover later that these co-teaching approaches were already defined. Also, Kathy and Dennis combined one teach/one observe and supportive approaches to create one unified approach.	Literature/Composition	1
Theme One: Instructional co-teaching approaches were developed and refined by the teachers when they were first placed in co-teaching situations. They had not received any prior training and they developed strategies that worked in their classrooms to discover later that these co-teaching approaches were already in place. Mary was the only teacher who received co-teaching training prior to participating in co-teaching partnerships.	Mathematics	1
Theme Two: The specific practices implemented in co-taught classrooms were group work to provide dialogue opportunities, and included all of the co-teaching approaches, excluding teaming.	Literature/Composition	2
Theme Two: The specific practices implemented in co-taught classrooms were peer tutoring and constant checking for understanding. The co-teaching approaches used were teaming and parallel teaching.	Mathematics	2
Theme Three: The roles and responsibilities assumed by each teacher participating in the co-teaching partnership were the general education teachers taking the role of lead teacher, while the special education teacher assumed more of a supportive role. The general education teachers were the teachers of record. Two of th pairs had the general education teacher planning the lessons and the special education teachers modified the lessons as necessary. One pair shared the responsibility of lesson planning.	Literature/Composition	3
Theme Three: The roles and responsibilities assumed each teacher participating in the co-teaching partnership were that both the general education teacher and the special education teacher assumed the lead teacher role in their classrooms. The general education teachers were the teachers of record. Ruth was in charge of behavior management in her co-taught classroom.	Mathematics	3

Theme		
Theme Four: The success of the classroom is attributed to their shared philosophy, mutual respect, structure, flexibility, cooperation, communication, open-mindedness, teamwork, administrative support, and the use of differentiated instruction. Improvements can be made by giving common planning time and more planning time to the teachers.	Literature/Composition	4
Theme Four: The success of the classroom is attributed to their shared philosophy, mutual respect, open-mindedness, positiveness, preparedness, communication, flexibility, administrative support, teamwork, content knowledge, and the use of differentiated instruction.		4

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APPENDIX N: WORKSHEET FIVE - ASSERTIONS FOR FINAL REPORT

Multi-Case Assertions for the Final Report

Assertions	Related to Which Theme	Evidence From Which Case
A) All of the co-teaching pairs interviewed with the exclusion of Mary, had no prior knowledge or experience with co-teaching approaches before entering co-teaching situations.	1	Anne
B) The teachers did not create any types of approaches or strategies that were not already in place.	1	Kathy and Dennis
C) High school literature/composition co-teachers utilized all of the co-teaching approaches excluding the teaming approach and they used the supportive co-teaching approach most often.	2	Rachael
D) High school mathematics co-teachers used the teaming approach most often.	2	Paul
E) Literature composition teachers sometimes use station teaching.	2	Tina
F) The alternative and the one teach/one observe approaches are seldom used at the high school level and they are only used by literature/composition teachers.	2	Kathy andDennis
G) The parallel approach was used somewhat in both math and literature/composition classes.	2	Ruth
H) All co-teaching pairs used group work and peer tutoring to provide opportunities for dialogue between the students as well as between the students and teachers.	2	Kathy
I) The general education teacher assumed the role of lead teacher in co-taught literature/composition classes.	3	David
J) Both the general education teachers and the special education teachers assumed the role of lead teacher in mathematics co-taught classrooms.	3	Mary
K) The literature/composition general education teachers planned the lessons while the special education teachers provided input and modified the lessons.	3	Anne
L) The success of the co-taught classrooms is attributed to their shared philosophies, mutual	4	Use evidence from all

respect, flexibility, open-mindedness, patience, structure, communication, teamwork, administrative support, the use of differentiated instruction, and the content knowledge of both teachers.		cases

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APPENDIX O: WORKSHEET SIX - CONCLUSIONS SAMPLE

Used to Create Conclusions for the Study

Theme	Conclusion
1	Although teachers were not trained prior to entering a co-teaching partnership, they discovered co-teaching approaches by trial and error. The teachers did not create any new approaches or practices.
2	All co-teaching pairs used group work and peer tutoring to provide dialogue.
2	Literature/Composition co-teachers used the supportive approach the most and mathematics teachers used the teaming approach the most.
2	The least used approaches were alternative and one teach/one observe.
3	In literature/composition classes the general ed teacher assumed the role of lead teacher and in mathematics classes both general ed and special ed assumed the role of lead teacher.
4	Participants attributed their success to shared philosophies, mutual respect, structure, flexibility, cooperation, communication, open-mindedness, teamwork, administrative support, differentiated instruction, and content knowledge.

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