

12-2015

A Case Study of Co-Teaching Practices in Minnesota

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A Case Study of Co-Teaching Practices in Minnesota

by

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A Dissertation

Submitted to the Graduate Faculty of

St. Cloud State University

In partial Fulfillment of the Requirements

For the Degree

Doctor of Education in

Educational Administration and Leadership

December, 2015

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Abstract

The education of children with disabilities in the general education classroom has evolved over many years. The popularity of inclusive education became widespread in the 1980s (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). It began as a civil rights movement, based on the rationale that all children—disabled and non-disabled—should have access to the same academic and social opportunities within the school (Sailor, 2002).

In 2006, 95% of the special education students aged six to 21 years old were educated in regular classrooms for at least 50% or more of their school day (U.S. Department of Education, 2008). To serve special education students in the general education classroom, schools began implementing several different inclusion models. One of those models was cooperative teaching, also called co-teaching. Co-teaching is characterized as a general education teacher and a special education teacher or another specialist collaborating for the purpose of delivering instruction together to students, including students with disabilities, in the general education setting (Friend et al., 2010). Co-teaching was designed to address the needs of students in an inclusive classroom by having a general education and special education teacher in the same classroom to meet the needs of individual students (Murawski & Dieker, 2008).

Co-teaching has become an increasingly common option for educating students with disabilities in order to comply with the federal mandates (Friend & Cook, 2014). In 1994, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently employed special education service delivery model for inclusive classrooms. The European Agency for Development in Special Needs Education in 2003 stated that

co-teaching was one of the five educational approaches that appeared to be effective within the inclusive education model (Saloviita & Takala, 2010). Now, more than a decade after passage of the No Child Left Behind Act, the popularity of co-teachings has only increased (Kloo & Zigmond, 2008).

Murawski and Swanson (2001) completed a meta-analysis of co-teaching studies to determine the impact of co-teaching on students. They reviewed six studies and found the overall mean impact of co-teaching to be 0.40, suggesting that it is a moderately effective procedure for influencing student outcomes. Quantitative and qualitative research over the past 20 years has consistently established that students in co-taught classrooms learn more and perform better on academic assessments than do special education students in more restrictive services delivery models (Walsh, 2012).

In order for students and teachers to achieve maximum benefit from co-teaching, certain elements, including the components, methods, benefits, and barriers need to be addressed. The purpose of this study was to examine co-teaching in a select sample of school districts to determine the presence or absence of those elements in their co-teaching models that lead to successful co-teaching.

This study employed a case study research methodology. Further, the study incorporates qualitative and quantitative research methods, creating a mixed-methods study. Three school districts in Minnesota were selected to participate in the study. The districts were required to have a co-teaching program district wide. Data were collected through an online survey and an interview of select co-teachers who responded to the survey. Analysis of the data was done using the Statistical Package for Social Science (SPSS).

The results of this study provide recommendation for further practice and research that may benefit the field of educational leadership. A number of limitations of the study were also presented.

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Chapter I: Introduction

In 1973, a little more than 4.75 million students were identified as having a disability (U.S. Department of Education, 2008). In 2012, that number grew to over 5.6 million students enrolled in special education in the United States (U.S. Department of Education, 2013). In 2006, 95% of the special education students aged 6 to 21 years old were educated in regular classrooms for at least 50% or more of their school day (U.S. Department of Education, 2008). To serve special education students in the general education classroom, schools began implementing several different inclusion models. One of the models was cooperative teaching, also called co-teaching. Co-teaching is characterized as a general education teacher and a special education teacher or another specialist collaborating for the purpose of delivering instruction together to students, including students with disabilities, in the general education setting (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Co-teaching was designed to address the needs of students in an inclusive classroom by having a general education and special education teacher in the same classroom to meet the needs of individual students (Murawski & Dieker, 2008).

Historical Background

The education of children with disabilities in the general education classroom has evolved over many years. The popularity of inclusive education became widespread in the 1980s (Friend et al., 2010). It began as a civil rights movement, based on the rationale that all children—disabled and non-disabled—should have access to the same academic and social opportunities within the school setting (Sailor, 2002).

In 2001, Congress adopted Public Law 94-142, titled the No Child Left Behind Act, which required all students, including students with disabilities, must have access to the general curriculum, be taught by highly qualified teachers, and be included in accountability testing (Solis, Vaughn, Swanson, & McCulley, 2012).

In 2004, Congress reauthorized the Individuals with Disabilities Education Act (IDEA), which required students be taught in the least restrictive environment. Under this mandate, schools were to determine those supports necessary to ensure that students with disabilities were educated in the general education setting to the greatest extent possible (Solis et al., 2012).

Subsequently, co-teaching has become an increasingly common option for educating students with disabilities in order to comply with these federal mandates (Friend & Cook, 2014). In 1994, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently employed special education service delivery model for inclusive classrooms. The European Agency for Development in Special Needs Education in 2003 stated that co-teaching was one of the five educational approaches that appeared to be effective within the inclusive education model (Saloviita & Takala, 2010). Now, more than a decade after passage of the No Child Left Behind Act, the popularity of co-teachings has only increased (Kloo & Zigmond, 2008).

Co-Teaching Elements

The purpose of co-teaching is to make it possible for special education students to have access to the general curriculum, while also benefiting from specialized instructional strategies (Friend et al., 2010). The co-teaching process involves heterogeneously grouped

classrooms (Murawski & Hughes, 2009). The process is dependent on teachers having common planning time (Cook & Friend, 2010; Simmons & Magiera, 2007) and should be voluntary (Cook & Friend, 1995, Rice & Zigmond, 1999). Professional development is an essential characteristic of successful co-teaching (Walther-Thomas, Bryant, & Land, 1996).

In some co-taught classrooms, the fundamental structure, instructional style, and leadership of the regular classroom do not change. In such instances, the general education teacher assumes that the special education teacher's presence should not have any impact on the class. When the classroom teacher does not involve the special education teacher in the lesson, the special education teacher often functions in the roles of a paraprofessional or student teacher (Friend & Reising, 1993). Murawski and Hughes (2009) stated that "Effective co-teaching relies on setting aside assumptions and engaging in an ongoing discussion of how to best utilize both professionals in the teaching and learning process" (p. 5). Weiss and Lloyd (2002) found that a lack of training and support results in the special education teacher assuming the role of monitoring students in the classroom during the co-teaching process. Poorly defined role descriptions can cause co-teaching relationships to fail (Walter-Thomas, 1997). In Takala and Uusitalo-Malmivaro's study (2012), many special education co-teachers complained that they were seen as an assistant or discipline keeper. Middle school special educators expressed that they were under-utilized and overextended by being expected to know the classroom curriculum (Bessette, 2007). Friend et al. (2010) identified six approaches that a two-person team should use when co-teaching: (1) one teach, one observe, (2) station teaching, (3) parallel teaching, (4) alternative teaching, (5) teaming, and (6) one teach, one assist.

Co-Teaching Effectiveness

Although it is very difficult to conduct research on co-teaching effectiveness due to the number of different variables impacting classroom instruction, a growing number of case studies and program evaluation studies have revealed that co-teaching can be an effective means of improving academic, behavioral, and other outcomes for students with disabilities without negatively affecting the achievement of non-special education students (Friend & Cook, 2014).

Murawski and Swanson (2001) completed a meta-analysis of co-teaching studies to determine the impact of co-teaching on students. They reviewed six studies and found the overall mean impact of co-teaching to be 0.40, suggesting that it is a moderately effective procedure for influencing student outcomes.

In a study of students with disabilities from four Western New York middle schools, Magiera and Zigmond (2005) found that students with disabilities in co-taught classes received individual instructional interactions 2.2% of the time. When just the general education teacher was in the room, students with disabilities received individual instructional interactions less than 1% of the time.

Gerber and Popp (1999) interviewed 123 students and their parents about their experiences with a co-teaching model. All of the parents interviewed believed that the collaborative teaching program had a positive impact on their children. They also stated that having their children participate in the general education classroom had a profound impact on their child's self-concept.

Collaborative teaching can make teaching more enjoyable and allows the collaborating teachers to experiment with new teaching activities and methods (Salend, Mumper, Chase, Pike, & Dorney, 1997). It enhances the potential for professional interaction (Bauwens, 1989).

Quantitative and qualitative research, students over the past 20 years have consistently established that students in co-taught classrooms learn more and perform better on academic assessments than do special education students in more restrictive services delivery models (Walsh, 2012).

Conceptual Framework

Federal mandates require that school districts examine methods to provide free and appropriate education to students with disabilities. Co-teaching involves the partnership of a general education teacher and a special education teacher or another specialist working cooperatively in the general education classroom to provide instruction to and modifications for students with disabilities in the least restrictive environment with highly qualified teachers. This partnership relies on trust, collaboration, and a willingness to learn and change current teaching practices.

This study is based on the framework of elements that lead to successful co-teaching, as identified by researchers on the topic. Those elements include co-teaching characteristics, instructional teaching methods, and being able to identify the benefits and barriers of successful co-teaching for students and teachers.

Based on the literature, several characteristics need to be in place in order for co-teaching to be successful. These include:

- a set number of special education students in the classroom (Pearl, Dieker, & Kirkpatrick, 2012;);

- common planning time (Cook & Friend, 2010; Muraski & Lochner, 2011; Rice & Zigmond, 1999; Simmons & Magiera, 2007);
- teachers who volunteer to be a part of co-teaching (Austin, 2001, Cook & Friend, 1995, Mastropieri et al., 2005; Rice & Zigmond, 1999);
- a shared commitment to the model (Rice & Zigmond, 1999);
- professional development (Simmons & Magiera, 2007; Walther-Thomas et al., 1996); and
- strong administrative support (Bessette, 2007; Scruggs, Mastropieri, & McDuffie, 2007; Takala & Ususitalo-Malmivaaro, 2012; Walter-Thomas, 1997; Walther-Thomas, Bryant, & Land, 1996).

In considering successful co-teaching, the following teaching methods are encouraged:

- both teachers need to be seen as the teacher in the co-taught classroom (Kohler-Evans, 2006; Murawski, 2008);
- teachers have shared responsibilities (Keefe & Moore, 2004; Kohler-Evans, 2006);
- roles and responsibilities are defined (Walter-Thomas, 1997; Walther-Thomas et al., 1996);
- use of variety of teaching methods (Bacharach, Heck, & Dahlberg, 2010; Cook & Friend, 1995).

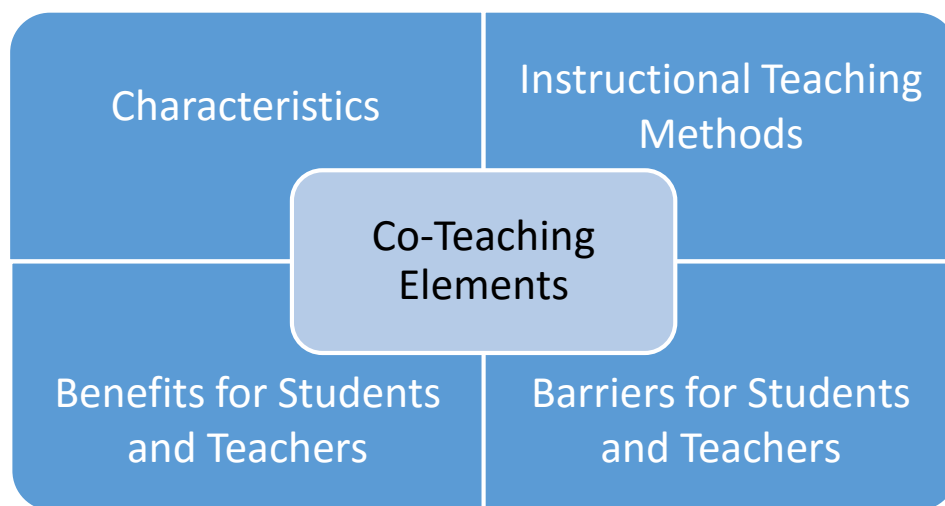
Research shows that the benefits of co-teaching for both students and teachers are:

- increased academic, behavioral expectations, and social skills achievement for students with disabilities (Nevin, Thousand, & Vila, 2009);
- students received more help in the co-taught classroom (Gerber & Popp, 1999; Keefe & Moore, 2004; Takala & Uusitalo-Malmivaara, 2012);
- students experience a greater variety of instructional options (Bacharach, Heck, & Dahlberg, 2010; Cook & Friend, 1995);
- improved teacher collaboration and communication skills (Murawski & Hughes, 2009; Walther-Thomas, 1997);
- increased understanding of the curriculum (Kloo & Zigmond, 2008; Murawski & Hughes, 2009; Zigmond & Magiera, 2001);

- professional growth for teachers ((Nevin, Thousand, & Vila, 2009; Walther-Thomas, 1997); and
- ability of teachers to try new teaching activities and methods (Rice & Zigmond, 1999; Salend et al., 1997).

The barriers of co-teaching for students and teacher include:

- absence of administrative support (Bessette, 2007; Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012; Walter-Thomas, 1997)
- lack of professional development (Buerck, 2010; Moore & Keefe, 2001);
- no common planning time (Bessette, 2007; Buerck, 2010; Pearl et al., 2012; Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012; Walther-Thomas, 1997); and
- poorly defined roles and responsibilities (Buerck, 2010; Walter-Thomas, 1997; Walther-Thomas et al., 1996).



Statement of the Problem

Federal mandates require that students with disabilities be taught with their general education peers to the greatest extent possible by highly qualified teachers. These mandates challenged school districts to create quality special education services in the general education classroom while simultaneously meeting the student's individual needs. Co-teaching become

popular in American schools as a vehicle for solving this challenge. Limited information was found on whether or not teachers and school districts that are implementing co-teaching are doing so in a manner consistent with the research on successful co-teaching elements.

Purpose of the Study

In order for students and teachers to achieve maximum benefit from co-teaching, certain elements, including co-teaching characteristics, instructional teaching methods, benefits and barriers for students and teachers need to be addressed. The purpose of this study is to examine co-teaching in a select school district to determine the presence of elements in their co-teaching model that lead to successful co-teaching.

Assumptions of the Study

The participants in this study answered all of the survey and interview questions openly and honestly. The responses received from the participating teachers accurately reflected their professional opinion. The sample is representative of the teachers who are co-teaching in each of the districts selected to participate in the study.

Delimitations of the Study

Delimitations are factors that can be controlled by the researcher (Mauch & Birch, 1993). Delimitations of this study are as follows:

- Only teachers in Minnesota public schools were surveyed
- The sample districts involved were selected from among schools or districts that were using co-teaching as identified by special education administrators with knowledge of their schools and districts special education teaching models.
- The sample was limited by the extent to which school administrators were willing to participate in the case study and to identify the teachers in their district that were co-teaching.

- The sample was limited by the willingness of respondents to complete the study survey.
- The sample was limited to the willingness of teachers to participate in a follow-up interview.

Research Questions

The following research questions were addressed in this study:

- What co-teaching characteristics do general and special education teachers identify as present in their school district?
- What co-teaching teaching methods do general and special education teachers identify as present in their school district?
- What benefits and barriers teachers do general and special education teachers identify regarding co-teaching?

Definition of Terms

The following terms are used throughout this paper. Definitions have been provided to better explain the concepts.

Co-Teaching Barriers: The barriers of co-teaching include absence of administrative support; lack of professional development for co-teachers; no common planning time; and poorly defined roles and responsibilities.

Co-Teaching Benefits: The benefits of co-teaching include increased academic, behavioral expectations, and social skills achievement for students with disabilities; students received more help in the co-taught classroom; students experience a greater variety of instructional options; improved teacher collaboration and communication skills; increased understanding of the curriculum; provides professional growth for teachers; and allows teachers to try new teaching activities and methods.

Co-Teaching Characteristics: Characteristics include having a set number of special education students in the classroom, teachers having common planning time, teachers volunteering to participate in co-teaching, a shared commitment to the model by the teachers and administration, continued professional development regarding co-teaching, and strong administrative support.

Co-Teaching Methods: Methods of co-teaching include both teachers need to be seen as the teacher in the co-taught classroom, teachers have shared responsibilities, defined roles and responsibilities, and the teachers use a variety of instructional teaching methods.

Cooperative Teaching (Co-Teaching): A methodology in which a general education teacher and a special education teacher or another specialist collaborate for the purpose of delivering instruction to students, including students with disabilities, in a general education setting (Friend et al., 2010).

General Education Classroom: A classroom setting where students without disabilities are educated using a grade-level-appropriate curriculum delivered by a general education teacher (Lipsky & Gartner, 1997).

General Education Student: Student without a disability.

General Education Teacher: A classroom teacher who is certified by the State Department of Education to teach a general or regular education class.

Highly Qualified: Special education teachers who pass a test in specific core subject areas, obtain college credit in a subject area, or meet requirements of either a single or multiple subject area on the High Objective Uniform State Standard of Evaluation (HOUSSE) procedure if teaching one or more core academic areas (Pearl et al., 2012).

Inclusion/Inclusive: Educational programming where students with disabilities learn with their peers in general education classrooms (Solis et al., 2012).

Least Restrictive Environment: Students with disabilities are in the general education classroom with their non-disabled peers as much as possible (Keefe & Moore, 2004).

Mainstreaming: The placement of students with disabilities in the general education classroom for part or all of the school instructional day (Bos & Vaughn, 2002).

Special Education Teacher: A teacher who is certified by the State Department of Education to teach students with disabilities and ensure the implementation of the Individualized Education Plan (IEP).

Student with Disabilities: Student who have a diagnosed disability that meets the criteria to receive special-education services according to the State Department of Education. Identification has been made using formal and informal testing/observations including, but not limited to, reference and intelligence testing (Lipsky & Gartner, 1997).

Organization of the Study

This study is presented in five chapters. Chapter I contains an introduction to the study, a conceptual framework, statement of the problem, purpose of the study, assumptions, delimitations, research questions and definitions. Chapter II presents a review of the related literature as it pertains to co-teaching. Chapter III presents the methodology employed in conducting the study including an overview of methods, research design, setting and participant process, and data collection and analysis. Chapter IV details the findings of the study and Chapter V describes the summary, conclusions, recommendations, and suggestions for further research.

Chapter II: Review of Literature

Introduction

In 1989, 31.7% of student's ages six through 21 identified as having a disability spent 80% or more of their school day in the general education classroom (National Center for Educational Statistics, 2009). In 1992, 33% of special education students spent the majority of their school day in the general education classroom (United States Department of Education, 2006). From 1997 to 2000, the number of special education students in the general education classroom remained the same (United States Department of Education, 2009). In 2001, federal mandates required that school districts service special education students in the least restrictive environment possible. In 2006, 95% of the special education students aged 6 to 21 years old were educated in regular classrooms for at least 50% or more of their day (United States Department of Education, 2008). To keep special education students in the general education classroom, schools began implementing several different inclusion models. One of those models was cooperative teaching, also called co-teaching. Co-teaching is defined as a collaboration between the general education teacher and special education teacher or another specialist, for the purpose of delivering instruction together to students, including students with disabilities, in a general education setting (Friend et al., 2010). Co-teaching instruction increases the outcomes for all students in the general education setting while ensuring that students with disabilities receive necessary modifications and provided instruction by a content expert (Murawski & Dieker, 2004). This literature review identifies three themes of co-teaching. The themes are historical background, co-teaching elements, and finally the effectiveness of co-teaching.

Historical Background

The concept of including students with disabilities in the general education classroom began as a civil rights argument. The foundation of this argument was that all children—disabled and non-disabled—should have access to the same academic and social opportunities within the school (Sailor, 2002). In a review of 28 studies published between 1958 and 1995, 65% of classroom teachers surveyed indicated that they supported including students with disabilities in the general education classroom instead of the special education room. However, 35% of teachers in the study believed that students with disabilities would be disruptive to their classes or demand too much attention (Scruggs & Mastropieri, 1996).

In 1973, the United States Congress passed the Rehabilitation Act. This law made sure that people with disabilities are not discriminated against. It also enacted Section 504, the right of people with disabilities access to jobs and services in schools, health care facilities, social service agencies, and other agencies receiving federal funds (Boyer, 1979).

In 1975, Congress passed Public Law 94-142 (P.L. 94-142), also called the Education for All Handicapped Children Act (Essex, 2008, p. 132). Lawmakers were concerned that there were more than eight million children in the United States with disabilities that were not being provided the appropriate educational services that allowed them to receive a free and appropriate education (Essex, 2008, p. 132). P.L. 94-142 required that every state and local school district receiving federal funds find and educate, at the public's expense, all children with disabilities regardless of the severity of a child's disability (Boyer, 1979). Public Law 94-142 required that state and local school districts make every reasonable effort to locate students with disabilities, evaluate the learning needs of the child and develop an Individual

Education Plan (IEP) to meet the student's needs, place the child in the least restrictive environment possible, and periodically evaluate the student's progress (Boyer, 1979). The passage of Public Law 94-142 shifted from an emphasis on *what* and *how* to teach to an emphasis on *where* to teach students (Baker, 1995).

The popularity of inclusion became widespread in the 1980s as school administrators were looking for a way to carry out Public Law 94-142. This increase in acceptance came from teachers believing that special education and related services could be offered in general education classrooms through partnerships that crossed the traditional teaching boundaries (Friend et al., 2010). Over the years, several different models have been proposed to facilitate dialogue, collaboration, and problem solving among school professionals to ensure student learning and better educate students with disabilities in the general education setting. Those models include collaborative consultation, mainstream assistance teams, teacher assistance teams, and cooperative teaching. All of these models were designed to help students with learning and/or behavior problems function more successfully in mainstream settings by providing structured support for their classroom teachers (Walther-Thomas et al., 1996).

In 1990, the Education for All Handicapped Act was renamed the Individuals with Disabilities Education Act (IDEA). This was the first federal law mandating free, appropriate public education for students with disabilities (Hallahan & Kauffman, 2003, p. 26). The Americans with Disabilities Act of 1990 (ADA) was also enacted around the same time as IDEA was underway (Essex, 2008, p. 132). Both of these statutes were enacted to protect individuals with disabilities from discrimination and to provide them equal access to educational opportunities, facilities, and employment opportunities in public settings

(Hallahan & Kauffman, 2003, p. 26). IDEA was amended in 1997 but the name was not changed (Hallahan & Kauffman, 2003, p. 26).

Then, in 2001, Congress adopted the No Child Left Behind Act that included the requirements that all students, including students with disabilities, have access to the general curriculum, taught by highly qualified teachers, and be included in accountability testing. In 2004, Congress reauthorized the Individuals with Disabilities Education Act (IDEA), renaming it the Individuals with Disabilities Education Improvement Act (IDEIA), which emphasized educating students in the least restrictive environment. Under this mandate, schools had to determine what supports were necessary to ensure that students with disabilities were educated in the general education setting to the greatest extent possible and by highly qualified teachers (Solis et al., 2012). IDEIA states that eligible children with disabilities between the ages of 3 and 21 receive a free, appropriate public education consistent with their educational needs (Essex, 2008, p. 136).

The highly qualified requirements required in the 2004 reauthorization of IDEIA left special educators with three options: exclusively teach only those students with severe disabilities; pass a test in specific core subject areas, obtain college credit in a subject area or meet requirements of either a single or multiple subject area High Objective Uniform State Standard of Evaluation (HOUSSE) procedure if teaching one or more core academic subjects; or participate in collaborative teaching models (Pearl et al., 2012). Because of the number of subject areas in which students with disabilities require support, the lack of special educators with even minimal qualifications in many content areas and mandates for increased access to

the general education curriculum, co-teaching became a widely implemented option (Pearl et al., 2012).

Co-teaching addresses the needs of students in an inclusive classroom by pairing a general education teacher and a special education teacher in the same classroom to meet the needs of individual students (Murawski & Dieker, 2008). In 1994, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently used special education service delivery model for inclusive classrooms. The European Agency for Development in Special Needs Education in 2003 stated that co-teaching is one of the five educational approaches that appear to be effective within the inclusive education model (Saloviita & Takala, 2010). Co-teaching differs from other collaborative models because it is based on ongoing classroom participation through sharing of common planning and teaching (Walther-Thomas et al., 1996).

Now, more than a decade after the passage of the No Child Left Behind Act, co-teaching's popularity has only increased (Kloo & Zigmond, 2008). From 2000 through 2007, the percentage of students with disabilities who spent the majority of their day in the general education classroom increased from 46.5% to 57.2%. In 2006, 9.1% of the general population ages six through 21 were receiving special education services in the United States (United States Department of Education, 2008). Of this group, 95% of the students were educated in general classrooms for at least 50% or more of their day.

Co-teaching is considered a viable option for ensuring that students have a highly qualified content teacher in the room, while also ensuring that an instructor who is highly qualified in differentiation strategies meets all students' individualized education needs

(Murawski, 2008). Co-teaching is an appropriate intervention for students with disabilities who can be successful learning in the general education setting given appropriate supports (Cook & Friend, 1995).

The National Longitudinal Transition Study–2 (NLTS2) provides a national perspective of the general education participation of students with disabilities. Data from this study showed that students with learning disabilities are more likely to take academic course in a general education setting in 2002 than they were in the past. There has been a ten percent increase since 1987 in the number of students with disabilities taking general education classes (Newman, 2006).

Elements of Co-Teaching

Murawski and Swanson (2001), in a meta-analysis of co-teaching research, found that students are best served in settings most like those of their non-disabled peers. Idol (2006) evaluated eight elementary and secondary schools and found that participants preferred that when students with disabilities are placed in general education classes that they be accompanied by a special education teacher. Based on research literature, it is evident that specific features are essential for co-teaching to be effective (Strogolis & Tragoulia, 2013).

Characteristics. The inclusion of two teachers teaching one classroom is an extremely effective way of providing instruction in an ever-increasing diverse general education classroom (Gately & Gately, 2001). In their 5-year study, Pearl et al. (2012) found that most teachers are given too many students with disabilities in their classes—over 50% of students had disabilities. The number of students with disabilities in a co-taught classroom should follow a one-third to two-thirds ‘rule of thumb’ for scheduling decision-making (Pearl

et al., 2012). A normal general education classroom consists of a teacher with 26 students, while a special education teacher may have 10 special education students in his/her classroom. In co-teaching, a general education classroom could serve 32 students with seven of those students having IEP's (Musrawski & Hughes, 2009). Effective co-taught classes are heterogeneously grouped classrooms. Not every class needs to be co-taught (Murawski & Hughes, 2009).

Most co-teaching occurs for students with mild disabilities, especially students with learning disabilities (Magiera & Zigmond, 2005). It is also used when a cluster of special education students are in a particular class or grade (Friend & Reising, 1993).

Co-teaching is most common in elementary schools (Friend & Reising, 1993). Co-teaching at the secondary level is challenging and takes longer to be incorporated by teachers (Scruggs & Mastropieri, 1996). At the secondary level, co-teaching occurs most often in social studies, the sciences, English/language arts, and math classes (Austin, 2001). Secondary teachers tend to have more negative attitudes toward inclusion of students with disabilities in the general education classroom than do elementary school teachers (Scruggs & Mastropieri, 1996). Typically, achieving balanced classrooms is easier in elementary and middle schools because mixed grouping is the norm in many schools. Unfortunately, in many high schools the lower level courses are filled with students who have learning and/or behavior problems (Walther-Thomas et al., 1996). Bashan and Holsblat (2012) found that co-teaching is difficult for those teachers who are accustomed to planning and carrying out their work alone since they need to work collaboratively with another teacher.

Co-teaching exists when two teachers co-plan, co-instruct, and co-assess (Murawski, 2008; Takala & Uusitalo-Malmivaara, 2012). Co-planning allows the special education teacher to give input on the instruction and help plan for differentiation, accommodations, and positive behavior support (Muraski & Lochner, 2011). When teachers collaborate, they share experiences and knowledge that can promote learning for instructional improvement and increase student achievement (Goddard, Goddard, & Tschannen-Moran, 2007). Co-teaching draws on the strengths of the general educator, one who understands the structure, content, and pacing of the general education curriculum, and the special educator, who identifies unique learning needs of individual students and enhances curriculum and instruction to match those needs (Kloo & Zigmond, 2008; Murawski & Hughes, 2009; Zigmond & Magiera, 2001). Effective co-teachers work together as equal partners and have an interactive relationship. They both participate directly in planning, teaching, and evaluating student performance (Walther-Thomas et al., 1996).

Quality co-teaching is dependent on common planning time, which can lead to more consistent and thoughtful implementation of co-teaching (Cook & Friend, 2010; Simmons & Magiera, 2007). Effective use of co-planning time can encourage general education and special education teachers to become one team (Howard & Potts, 2009). Rice and Zigmond (1999) found that when teachers had scheduled planning time, co-teaching appeared to be more satisfactory. When common planning time was not available, the special education teacher was less comfortable in their role. Walther-Thomas (1997) found that experienced and successful co-teaching teams: reported an hour or more of co-planning time each week, refused to let other priorities interfere with their co-planning time, prepared for co-planning

by individually reviewing content in advance, used co-planning time to address content goals, learner needs and effective instructional delivery, reported that co-planning helped the team maintain balance and equity in their relationship, communication, problem-solving, and assessment.

For co-teaching to work, it is important that teachers volunteer to be a part of it (Cook & Friend, 1995, Rice & Zigmond, 1999). Teachers who volunteer to be involved in co-teaching report more positive perceptions than teachers who are assigned to co-teaching (Mastropieri et al., 2005). These conditions include having mutual goals, shared participation, shared accountability for student success, shared resources, voluntariness, and equality among participants (Friend & Cook, 1990). Co-teaching is contingent on having staff that believe in the model (Baker, 1995).

Keefe and Moore (2004) found in their study of teachers in a large suburban high school in the southwestern part of the United States that it was important to teachers to choose their partner and to be able to communicate with their co-teaching partner, especially early on in the co-teaching relationship. Teachers reported that most classrooms consisted of the general education teacher taking responsibility for the curriculum, planning, and large group instruction while the special education teacher helped individual students and made modifications. To the students, the special education teacher was seen as an educational assistant and not a teacher. Collaboration and training would have allowed for a better use of the co-teaching arrangement (Keefe & Moore, 2004). The process is more successful when new co-teachers have previously developed positive working relationships, have mutual respect for each person's professional skills, and value collaboration. Because of the intensity

of the work and the focus on meeting students' academic and social needs, co-teaching is not be used as a strategy for remediating weak teachers or for mentoring inexperienced teachers. Both co-teachers must be capable contributors to make these partnerships equitable and productive due to the nature of the work (Walther-Thomas et al., 1996). Rice and Zigmond (1999) saw personal compatibility between partners as the most critical variable for co-teaching success for teachers in a study. Shared commitment and enthusiasm for the process are essential parts of co-teaching. Effective co-teachers are open, confident, and eager to try new ideas. They eliminate "my/your" thinking and vocabulary quickly. Their language reflects inclusive thinking (our students, our class).

Several conditions need to be in place in order for a successful collaboration partnership. A collaborative partnership involves both teachers being equally responsible for what happens in the classroom, making important decisions together, and carrying their part of the workload (Adams & Cessna, 1993). The relationship between the co-teachers is a major characteristic influencing the success or failure of inclusion of students with disabilities. When co-teachers are getting along and working well together, students with disabilities are more likely to be successful and have successful experiences in the inclusive environment (Mastropieri et al., 2005). Differing beliefs about how to plan for the co-teaching classroom, how to handle classroom management issues, and how to interact with students can inhibit positive relations between the two co-teaching partners (Mastropieri et al., 2005). Keefe, Moore, and Duff (2004) explain that teachers need to know themselves, know their co-teaching partner, know their students, and know the curriculum in order to be successful in

creating and maintaining co-teaching relationships. Truly collaborative partnerships take time and effort to develop (Gately & Gately, 2001).

School districts need to provide training to the co-teachers to help them understand the different co-teaching models and to help them collaborate more effectively (Simmons & Magiera, 2007). High school teachers stated they did not feel prepared for the demands that co-teaching placed on them in relationship to collaboration skills, content knowledge, and knowledge of special education (Keefe & Moore, 2004). Co-teachers need time set aside to ensure that instruction is being planned. Meeting before the start of the school year is important to address critical pieces of the classroom setting, including how the teachers will begin to address standards, assessment, accommodations/modifications, instructional strategies, and classroom set-up (Howard & Potts, 2009). Professional development activities should offer instruction related to effective co-planning; co-teaching variation; student scheduling; instructional considerations; ongoing performance assessment; and interpersonal communication. Activities should be designed to provide appropriate co-teaching models, supervised practice, and time for partners to discuss their concerns, solve problems, and formulate initial implementation plans (Walther-Thomas et al., 1996). School districts need to have long-term staff development plans for co-teaching partnerships to allow them to continue to develop their skills (Walther-Thomas et al., 1996). Before co-teaching starts, teachers should attend co-teaching workshops together; have common planning time so co-teaching can be planned and purposeful; put both teachers' names on the board, on handouts, on notes to families, and on exams and have two teacher desks in the classroom (Magiera, Smith, Zigmond, & Gebauer, 2005). Research shows that effective professional development

that is facilitated by school level staff, such as through professional learning communities, was key to the positive effects of co-teaching (Walsh, 2012). In a survey of 24 school districts, three district administrators indicated that they provided staff development prior to implementing co-teaching in their schools (Nichols, Dowdy, & Nichols, 2010).

Strong and effective leadership is critical to the success of co-teaching as a service delivery model for students with disabilities (Cook & Friend, 1995). In order for co-teaching to be effective, administrators must create a school culture in which co-teaching is valued and expectations are clear (Kamens, Susko, & Elliott, 2013). Administrators need to provide resources, foster relationships that encourage abilities, be flexible with scheduling, and communicate expectations to all stakeholders in the school to make co-teaching work (Kamens et al., 2013). Administrators must model a belief in the importance of co-teaching (Kamens et al., 2013). In order to do so, they must understand what makes co-teaching effective with respect to student achievement and provide a context in which practice can be successful (Kamens et al., 2013). They must understand and communicate the benefits of co-teaching for teachers and students with and without disabilities. Kamens et al. (2013) found that administrators supported co-teaching practices by providing professional development, which included workshops, in and out of district trainings, and in service days focusing on co-teaching. At the building level, principal involvement is essential to lasting success of co-teaching. Administrative leadership ensures better implementation by securing staff development opportunities needed to prepare staff members for the new roles and responsibilities of co-teaching and making sure common planning time is available (Walther-Thomas et al., 1996).

In a study by Rice, Drame, Owens, and Frattura (2007), general education teachers noted that their most effective co-teaching partnerships with special education teachers had six important traits: professionalism and dependability, ability to share their area of expertise to benefit all students, assess student progress, ability to analyze teaching styles, ability to work with a wide range of student abilities, and knowledge or interest in developing knowledge of course content. For success, co-teaching requires sufficient planning time, compatibility of co-teachers, and training in how to best implement co-teaching (Case-Smith, White, & Holland, 2014).

Kohler-Evans (2006) reported that the most important features in a co-teaching relationship include common planning time, having a positive working relationship with one's co-teaching partner, shared responsibility, and philosophy between the co-teaching partners. Teachers who were co-teaching needed sufficient planning time, needed to be compatible with each other, and needed training on co-teaching (Scruggs et al., 2007).

Instructional Teaching Methods. In order for co-teaching to be beneficial, educators must ensure that the instruction that is happening in a co-taught classroom is quantitatively and qualitatively different from that offered in a solo-taught classroom (Friend & Reising, 1993). Simply putting two educators in the same room is not co-teaching (Murawski & Hughes, 2009). Co-teaching is not a method by which one person teaches one subject followed by another who teaches a different subject (Villa, Thousand, & Nevin, 2004). It is also not one person teaching while the other photocopies worksheets, grades papers, or watches. Co-teaching is designed to facilitate the integration of students with disabilities into

the general education classroom while meeting the needs of all students through additional support.

When delivering instruction, it is important that both educators teach the main part of the lesson so they are viewed as integral to the classroom environment and not just an assistant (Brown, Morgan, & Howerter, 2013). In observations of secondary co-taught mathematics classrooms, researchers found that in 67% of the time, the mathematics teacher was providing the primary instruction and the special education teacher had the role of support by drifting from student to student (Magiera et al., 2005).

Teachers involved in co-teaching expressed the importance and need for establishing appropriate roles and clarifying responsibilities (Keefe & Moore, 2004). When roles and responsibilities are not clearly defined, then the general education teachers tend to dominate the co-teaching relationship. It is often a challenge to initially co-teach because education is often seen as an individual job. Teachers are given few opportunities to discuss, plan, and participate in ongoing projects with other adults on a daily basis (Walther-Thomas et al., 1996).

In their review of 32 qualitative studies on co-teaching, Scruggs et al. (2007) found that the general education teachers typically led the instruction with little individualization and the special education teacher acted as an assistant. The authors stated that if these 32 studies are a true representation of what is happening in the classroom, then the goal of co-teaching—two equal partners collaborating to focus on curriculum needs, provide innovative teaching, and appropriate individualization—is not happening. In successful co-teaching,

neither teacher is considered the main teacher of the class—they are both equals (Kohler-Evans, 2006; Murawski, 2008).

Special education teachers tend to take on the role of helper rather than co-teacher, mainly due to their lack of content knowledge (Keefe & Moore, 2004). Teachers in the study done by Scruggs et al. (2007) also stated that special education teachers often assumed the role of being a classroom assistant rather than a teaching partner. In a study of 36 co-teachers, 89% of the teachers said that the general education teacher taught the lesson while the special education teacher helped students (Strogilos & Tragoulia, 2013). Strogilos and Tragoulia (2013) also found that the general education teacher often taught the class the same way they would even if the special education teacher was not in the classroom.

In a study of a small public middle school, Embury (2010) found that when teachers used more co-teaching strategies that required the special educator to be more actively involved in the instruction, student engagement increased. Engagements increased by up to 20% for students with disabilities when teachers used co-teaching strategies other than one teach, one assist.

Several different models of co-teaching have been developed. Friend et al. (2010) identified six approaches: (1) one teach, one observe, (2) station teaching, (3) parallel teaching, (4) alternative teaching, (5) teaming, and (6) one teach, one assist. One teach, one assist is when one teacher leads the large group instruction while the other teacher gathers data on students or the entire class. Data can include academic, behavioral, or social data. Station teaching involves the instruction being divided into three non-sequential parts and the students rotating from station to station. In two of the stations, a teacher teaches student, while

in the third station students work independently. When both teachers teach half the class the same materials but differentiate their instruction, parallel teaching is happening. Parallel teaching allows for more student participation due to the smaller group size. Alternative teaching incorporates both small group time for remediation, enrichment, assessment, or pre-teaching while the other teacher works with the rest of the students. Teaming allows both teachers to lead large-group instruction through lecture. Teaming enables both teachers to share their views and shows students how to problem solve. Finally, one teach, one assist is when one teacher leads the instruction while the other teacher moves around the room helping students and redirecting behavior.

Davis, Dieker, Pearl, and Kirkpatrick (2012) found that the one-lead, one-support teaching model was predominantly used in co-taught middle school classrooms. Of the 775 days analyzed, 46% of the days involved this type of teaching structure. The second most commonly used structure was team teaching with 14%. Idol (2006) found that co-teachers often revert to using the one-teach/one assist model when the lesson was not thoroughly co-planned prior to instruction. In a review of 32 qualitative studies on co-teaching, Scruggs et al. (2007) found that the 'one teach, one assist' was the most prominent model of co-teaching by a considerable margin. They also found that the special education teacher assumed the responsibility for any problem behaviors that occurred in the classroom.

Despite the effectiveness and uniqueness of the co-teaching techniques, if they are not used, and used as designed, they do not make a difference in the education and lives of children and youth with disabilities (Cook & Schirmer, 2003). The outcomes of co-teaching are to improve the performance of students with disabilities, improve the participation of

students with disabilities in general education classrooms, and make available a wider range of instructional activities that would not be available with one teacher (Zigmond & Magiera, 2001).

Co-Teaching Effectiveness

Although it is very difficult to conduct research on co-teaching effectiveness due to the number of different variables impacting classroom instruction, a growing number of case studies and program evaluation studies have revealed that co-teaching can be an effective means of improving academic, behavioral, and other outcomes for students with disabilities without negatively affecting the achievement of non-special education students (Friend & Cook, 2014).

Quantitative and qualitative research over the past 20 years have consistently determined that students in co-taught classrooms learn more and perform better on academic assessments than do students in more restrictive service delivery models (Walsh, 2012).

Murawski and Swanson (2001) completed a meta-analysis of co-teaching studies to determine the effect size of co-teaching on students. They reviewed six studies and found the overall mean effect size of co-teaching to be 0.40, suggesting that it is a moderately effective procedure for influencing student outcomes. In a study of students with disabilities from four Western New York middle schools, Magiera and Zigmond (2005) found that students with disabilities in co-taught classes received individual instructional interactions 2.2% of the time, while this was less than 1% of the time when just the general education teacher was in the room.

In Austin (2001), most teachers believed that the co-teaching strategies were using were effective in educating all students and reported improved academic outcomes based on test scores and assignment grades. Kohler-Evans (2006) found that 77% of the secondary teachers surveyed said that co-teaching influenced student achievement.

In a study of a special education teacher and a social studies teacher, data at the end of the first year showed that with supports and adaptations, the students with disabilities were able to maintain test scores at similar level to their peers (Dieker, 1998). Welch (2000) showed that students with disabilities and their classmates all made academic gains in reading and spelling on curriculum-based assessments in the co-taught classrooms.

Walsh (2012) evaluated the Designing Quality Inclusive Education (DQIE) professional development training that was provided to districts in Maryland. DQIE provided professional development that modeled a variety of co-teaching approaches and strategies to differentiate instruction in the classroom for students. The performance of special education students in eight elementary schools during the 2008-2009 school year showed that the students increased their reading proficiency by 11% and mathematics scores by 14.5% as compared with a 1% increase in reading and no change in math for students without disabilities in the elementary schools that were not involved in the DQIE professional development. On state assessments between the years of 2003 and 2009, students with disabilities increased their reading proficiency at twice the rate (22%) as students without disabilities (11%) and almost twice the rate (22%) in math compared to students without disabilities (13%).

In a 4-year study of the effects of having student teachers co-teach with their practicum teacher (Bacharach & Heck, 2012), MCA scores indicated a statistically significant increase in academic performance in reading and math proficiency for students in the co-taught classrooms as compared to students in a non-co-taught classroom utilizing a traditional model of student teaching. The students were also given the Woodcock Johnson Psycho Educational Battery and this showed a statistically significant gain all four years in reading and two of the four years in math for students who were co-taught. Only 4% of the almost 1,700 students surveyed found no benefits to being in a classroom where the student teacher candidate and cooperating teacher were co-teaching.

The Arkansas Department of Education initiated a Co-Teaching project in coordination with the University of Central Florida collaborated to design, deliver, and evaluate a comprehensive co-teaching implementation and professional development plan (Pearl et al., 2012). Over a 5-year period, the study showed that the majority of students with disabilities earned a grade of C or better in the co-taught classes. Students with disabilities in co-teaching classrooms also narrowed the gap between the mean GPA for students with disabilities and students without disabilities over the five years of the study. The mean GPA for students in special education rose from 1.95 in 2006 to 2.12 in 2009, while the mean GPA for general education students rose from 2.42 in 2006 to 2.46 in 2009 (Pearl et al., 2012).

In their study of 58 students with disabilities, Hang and Rabren (2009) discovered that students who had been co-taught for 1 year had significantly higher SAT scores in reading and math than they did before being in a co-taught classroom.

A study was done comparing the performance of middle school students with learning disabilities who were served in co-taught classrooms versus students with learning disabilities taught in the special education classroom. The results clearly demonstrated that students with disabilities in the general education classroom achieved better outcomes on some measures (grades in language arts, math, science, and social studies) than did their peers in pullout programs. The special education students in the general education classroom also had higher scores on the language and math sections in the Iowa Test of Basic Skills. Both groups of student's scores similarly on the reading comprehension, science, and social studies section of the test (Rea, McLaughlin, Walther-Thomas, 2002). The special education students in the general education classroom did not have more in school or out of school suspensions than did students in pullout programs, and, the students attended more days of school than those in the pullout programs.

In a study examining students with learning disabilities in co-taught classrooms, the authors found the students had higher grades in core courses and attended more school days than students with disabilities in pullout programs (Rea et al., 2002). Dieker (2001) found that students who were taught by effective co-teaching teams indicated their overall satisfaction with the co-teaching instructional practice. While not all students understood why two teachers were in one classroom, they did report that they received more academic assistance and had fewer behavior problems in the co-taught classroom. In their study of high school co-teachers, Keefe and Moore (2004) reported that co-teaching eliminated the stigma of student being in special education and students who were not in special education received individual help and modifications.

Hang and Rabren (2009) interviewed 45 teachers from 1st through 10th grade and 58 students with disabilities. Both the teachers and the students agreed that the students with disabilities in co-taught classes increased their self-confidence, learned more, had sufficient teacher support, and displayed better behaviors.

Walther-Thomas (1997) found several advantages of co-teaching for students. Students with disabilities developed better attitudes about themselves and others, they were less critical and defensive and more motivated. Students in co-taught classes paid more attention to their schoolwork and physical appearance, and many showed increased school attendance (Walther-Thomas, 1997). Students with disabilities in co-taught classes also participated in classroom and extracurricular activities more actively. Many middle school teachers reported improvements in students' beliefs about themselves as learners (Walther-Thomas, 1997). Teachers reported that students with disabilities in co-taught classes learned appropriate classroom behaviors from their peers and behaved more appropriately in mainstream settings than they did in special education classrooms. The teachers attributed students' improved social skills performance to a number of factors, including good role models and a strong desire by special education students to "fit in" in the general education classroom.

Gerber and Popp (1999) interviewed 123 students and their parents about their experiences with a co-teaching model. The students without disabilities liked the collaborative teaching model. They recognized advantages both instructionally and behaviorally and say positive effects on grades and self-esteem. Students without disabilities hoped for a continuance of the program in subsequent years. Students with learning disabilities and other

special needs liked the collaborative model and believed that it enabled the students to get better grades and receive more teacher help. They also saw increases in students' organizational skills and their use of learning strategies. The parents of students without disabilities believed that the co-teaching model enabled their children to gain an understanding of diversity among students, particularly those with disabilities. The parents of students with learning disabilities felt that co-teaching had a positive impact on their children and helped to foster positive self-esteem.

Teachers also saw benefits for general education students who were in co-taught classes and this included improved academic performance, more teacher time and attention, and social skills instruction (Walther-Thomas, 1997). Low-achieving students did better in co-taught classrooms than they did when only the general education teacher was teaching the class. The presence of an additional teacher in these classrooms increased the amount of time, individual attention, and supervision low-achieving students received and thus helped them understand the material better. Students without disabilities improved social skills, such as fewer fights and verbal disagreements, less name-calling, better problem solving, "over acts of kindness," better materials sharing, fewer classroom cliques, and more cooperation during group work assignments (Walther-Thomas, 1997).

Walther-Thomas (1997) also found students with disabilities had more appropriate behaviors in co-taught classrooms than students taught in resource room classrooms. Wischnowski, Salmon, and Eaton (2004) also reported that students exhibited appropriate behaviors in co-taught classrooms.

In another comprehensive study, students receiving special education services in a co-teaching environment expressed that they liked co-teaching and received more teachers' help and attention (Gerber & Popp, 1999). However, they also expressed confusion about having two teachers in one classroom because they often were provided different explanations from the different teachers.

Zigmond and Magiera (2001) noted, "The research base on the effectiveness of co-teaching is woefully inadequate. While there are many resources available to tell practitioners how to do it, there are virtually no convincing data that tell the practitioners that it is worth doing" (p. 4). Murawski and Swanson (2001) in completing a meta-analysis of the literature on co-teaching concurred that little empirical research is available on the impact of co-teaching.

In a study by Murawski (2006), students with learning disabilities in co-taught classrooms did not achieve better standard test scores than did those in resource or self-contained special education classrooms.

Rea et al. (2002) found that students with learning disabilities in co-taught classes performed better on items such as report card grades and attendance than students in single teacher classes. Student's performance, whether in a co-taught class or no, on high-stakes tests were similar. Idol (2006) also found that scores on high stakes tests were not affected by co-teaching—both for students with disabilities and for those without.

In a comparison of a solo taught 5th grade classroom and a co-taught 5th grade classroom, students in the co-taught classroom improved their scores on 9 of the 10 sets of math scores (pretest/posttest comparisons, Iowa Test of Basic Skills, and the 120 days of

school standards assessment). However, the increase in ability is not a significant enough difference when compared to the solo-taught class (Witcher & Feng, 2010).

An article search of refereed journals revealed only four studies that measured the efficacy of co-teaching in comparison to a control group. Three of those studies found co-teaching to be as effective as resource room or consultation service models and one revealed that students' grades worsened in the co-teaching experiment (Pearl et al., 2012).

Vaughn and Klingner (1999) summarized 20 studies that investigated the perceptions of learning on students in Kindergarten through 12th grade. The studies revealed that students with disabilities want to learn the same material, use the same books, and enjoy homework and grading practices as their non-disabled peers. Additionally, they found that students with and without disabilities understood that students learn differently; and as a result, need teachers who are willing to teach using a variety of styles in order to reach every learner. Co-teaching allows students to be involved and learn the same way as their general education peers (Vaughn & Klinger, 1999).

Benefits of Co-teaching. The purpose of co-teaching is to make it possible for special education students to have access to the general curriculum, while also benefiting from specialized instructional strategies (Friend et al., 2010). In a study of team teaching in a fourth and fifth grade-combined classroom, parents reported that the children liked that there were two teachers in the classroom and that their children benefited from the team-teaching. The majority of the parents also expressed that the inclusion class helped develop their child's social skills, self-esteem, and academic achievement. Parents reported that the different

teaching styled by the co-taught teachers benefited their child as it allowed them to have diverse learning opportunities (Tichenor, Heins, Piechura-Couture, 2000).

Gerber and Popp (1999) interviewed 123 students and their parents about their experiences with a co-teaching model. From this study, the authors found that students with disabilities received more help in the classroom. There were opportunities for them to ask questions and obtain answers, even when one teacher was talking. Students received more help, received more questions answered, and had a better understanding of the material. Students reported that they were more confident of themselves in their classes because they knew the material.

In a 4-year study of the effects of having student teachers co-teach with their practicum teacher (Bacharach & Heck, 2012), students in the classrooms overwhelmingly identified increased engagement, increased opportunities to work in small groups, more individual attention, questions answered faster, papers and grades returned more quickly, better behavior by fellow students, and fewer classroom disruptions.

Co-teaching may provide all students with a wider range of instructional options and reduce the student-teacher ratio through physically having two teachers in the room (Cook & Friend, 1995; Saloviita & Takala, 2010). Co-teaching may reduce the stigma for students with disabilities by placing them in the general education classroom instead of in the resource room (Cook, 2004; Cook & Friend, 1995). Walsh (2012) found that students prefer to receive their modifications and supports in the general education classroom with their peers rather than leave the classroom for special education services.

Wilson and Michaels (2006) surveyed 346 students with and without disabilities in secondary schools about their view of co-teaching. The students reported that they favored co-teaching, would participate in another co-taught class if given the opportunity, and received better grades in co-taught classes compared with other classes. The students also reported that more help was available in the co-taught class, multiple instructional approaches were used, and multiple teaching styles and teacher perspectives were offered.

In a 4-year study of elementary co-teaching through a student teaching experience, students overwhelmingly identified the number one benefit of co-teaching was getting help when they needed it. Students also noted that they spend less time waiting for help and that co-teachers covered more materials. Students also stated that benefits included exposure to two styles of teaching, fewer classroom disruptions (for passing out papers and other routine classroom tasks), and improved student behavior (Bacharach, Heck, & Dahlberg, 2010). Additionally, students pointed out that they got their assignments and grades returned more quickly, felt more connected to school, and were able to do a variety of activities that were not possible with just one teacher.

Gerber and Popp (1999) interviewed 123 students and their parents about their experiences with a co-teaching model. All 37 parents interviewed believed that the collaborative teaching program had a positive impact on their child. They also stated that having their child stay in the general education classroom had a profound impact on their self-concept.

By not singling out individual students for assistance by labeling the special education student who needs to leave the classroom and instead bringing assistance to the entire class,

co-teaching reduces the stigma associated with needing extra help (Kloo & Zigmond, 2008). Many times, when students leave the general education classrooms to receive their special education services within a special education classroom, they receive a watered down curriculum that places them at even a further disadvantage (Obiakor, Harris, Mutua, Rotatori, & Algozzine, 2012). A lack of coherence and alignment of curriculum happens when students leave for special education remedial instruction (Cook & Friend, 1995; Murawski & Hughes 2009). Co-teaching increases the instructional options for all students – from those with special needs to gifted and talented students (Cook & Friend, 1995). Gifted and talented students may benefit from the opportunities to have more individualized learning. Students who struggle to learn but who are not eligible for special education or other support services gain from the reduced student-teacher ratio and the instructional variety that co-teaching brings.

Co-teaching has led to more appropriate social behavior and higher levels of achievement for students with disabilities. Students without disabilities have also shown to increase their comfort and awareness of the differences of students (Baker & Zigmond, 1995).

In a 1-year study of the development of co-teaching in four Finnish schools in Helsinki, students received more attention, help and guidance more quickly, and the students got a higher quality of teaching (Takala & Uusitalo-Malmivaara, 2012).

In a study of a co-teaching partnership between a special education teacher and a social studies teacher, Dieker (1998) found that the benefits of co-teaching were that, (a) students expressed positive attitudes about being in the social studies classroom, (b) projects, study session, and materials were coordinated to help all students, (c) both

teachers increased their skills by learning from each other's specialized knowledge, (d) students who were labeled were provided with good role models for behavior and learning, (e) students who were not labeled were involved with students with special needs and had a chance to see those students be successful, (f) students who were labeled were exposed to higher level concepts and discussions than might be found in a special education classroom, and (g) the student-teacher ratio was lowered in this classroom.

Co-teaching increases the learning outcomes for all students in the general education classroom while ensuring students with disabilities receive necessary modifications and are provided instruction from a content expert (Buerck, 2010; Friend & Reising, 1993; Murwaski & Dieker, 2004). Co-teaching also ensures that students who are at risk also receive the additional support they need (Kloo & Zigmond, 2008).

With two teachers in the room, there is the opportunity for flexibility in grouping and scheduling, therefore making it possible for students to experience less wait time for teacher attention and increased time on task (Villa et al., 2004). Reducing the student-teacher ratio in general education classes through co-teaching also provides more opportunities for students with IEPs and at-risk students to interact with a teacher and participate actively in class activities (Kloo & Zigmond, 2008). Co-teaching functions on a proactive basis. Those students showing academic and/or learning difficulties can immediately receive needed instructional or curricular modifications or interventions early and intensively, therefore greatly decreasing the likelihood of the need for traditional special education pullout services (Bauwens, 1989). In some schools where cooperative teaching has been in place for a period

of several years, teachers and administrators report a decline in the number of special education referrals (Redditt, 1991).

When asked the benefits of co-teaching, general and special education teachers reported professional satisfaction, professional growth, and increased collaboration among staff members (Walther-Thomas, 1997). Some co-teachers believed that they had never worked harder in their teaching career than they did since being involved in co-teaching.

In a study of co-teaching between teachers and college teacher candidates, 92% of teacher candidates and 93.2% of cooperating teachers responded that increased collaboration and communications skills were gained because of the co-teaching experience (Heck, Bacharach, & Dahlberg, 2008). These same teachers also reported that they gained a deeper understanding of the curriculum because of co-teaching.

Austin (2001) found that both general and special education teachers felt that co-teaching was a worthwhile experience that contributed to the improvement of their teaching and they benefited from working with each other. Each teacher gets to bring his or her expertise to the classroom (Murawski & Dieker, 2004). Cook (2004) found that co-teaching allows the special education teacher has a better understanding of the curriculum and the general education teacher's expectations.

Cook (2004) stated that co-teachers often state that one of the most visible advantages of sharing a classroom is the sense of support it fosters. Co-teachers report that when they have a spectacular lesson, someone is there to share it, and when they have a particularly challenging day; someone really knows just how difficult it was.

The benefits claimed for co-teaching include greater academic improvements for the students, better teaching conditions, use of effective teaching strategies, development of a sense of community, professional growth and better job satisfaction (Nevin et al., 2009).

Co-teaching also provides professional support for teachers, more teacher interaction with students, and the ability to closely monitor student learning (Cook & Friend, 1995).

There are many benefits of co-teaching including opportunities to vary content presentation, individualize instruction, scaffold learning experiences, and monitor students' understanding. Co-teaching in its most effective form can promote equitable learning opportunities for all students (Graziano & Navarrete, 2012).

Co-teaching provides teachers with more confidence about working with a diverse group of students and allows teachers to see their co-workers and students in new ways and establish positive relationships (Keefe et al., 2004).

Collaborative teaching can make teaching more enjoyable and allows the collaborating teachers to experiment with new teaching activities and methods (Salend et al., 1997). It allows for an enhanced potential for professional interaction and stimulation that such an arraignment provides for teachers (Bauwens, 1989).

Co-teaching and collaboration offer a way of achieving the goals of Response to Intervention (RTI), allowing teachers and other professionals the flexibility of teaching options and providing intensive instruction for students at the time they need it (Murawski & Hughes, 2009).

In a survey of secondary teachers in Seattle, Washington, 97% of the teachers said they would participate in co-teaching again if given the opportunity (Kohler-Evans, 2006).

Those who would not repeat the experience cited the need for training and resources as a primary factor and felt that co-teaching did not meet the needs of all students, especially those with significant needs.

When executed well and supported sufficiently, co-teaching is one of the most effective instructional strategies teachers can use (Chapman & Hyatt, 2011).

Co-teaching is the most popular model for implementing inclusion in the secondary school (Dieker & Murawski, 2003; Magiera & Zigmond, 2005).

Co-teaching is most common in elementary and middle schools but has been implemented at all grade levels (Zigmond & Magiera, 2001).

Co-teaching is expected to make available to all students, including those with disabilities, a wider range of instructional alternatives than would be possible with just one teacher. It is expected to enhance the participation of students with disabilities as full classroom members. It is expected to improve learning outcomes for students with disabilities in the general education curriculum (Rice & Zigmond, 1999).

Rice and Zigmond (1999) stated:

A decision to adopt a co-teaching approach is generally made when teacher decide that the learning and social needs of students with disabilities can be met in a general education classroom with appropriate supports provided. The decision also takes into account the educational well-being of other students in the class.

Co-teaching allows for a more individualized and diversified learning experience for students and enables teachers to complement each other's expertise and support each other (Friend & Reising, 1993).

Barriers of Co-teaching. Gerber and Popp (1999) interviewed 123 students and their parents about their experiences with a co-teaching model. The students expressed that there

was more confusion with having two teachers in the classroom. Parents also expressed that the plan was not well communicated for having two teachers in the room. Wilson and Michaels (2006) found that students felt they could not get away with anything in co-taught classes because of the two teachers, felt the standards were higher than in other classes, and found that sometimes multiple teacher perspectives could be confusing.

Buerck (2010) reported in her study that parents and guardians of students without disabilities questioned why their child was placed in a co-teaching classroom and with students identified as having special needs. Parents were concerned about the negative implications this could have for their child. The parents were also concerned that the curriculum may have been 'watered down' and that their children were placed in classes with students that exhibited behaviors that were detrimental to the learning environment. General education students in co-teaching classes may become easily bored if the pace of the class is slower than a general class (Buerck, 2010).

Collaborative teaching can be extremely unnerving for teachers because it forces them to adjust their teaching styles for the diverse needs in the classroom and for the extra adult in the room (Keefe et al., 2004). Cook and Friend (1995) found that classroom teachers sometimes feared that special education teachers would judge their teaching and special educators worried that general education teachers would question the value of their work. Typically, if co-teachers did not develop a positive working relationship during the first year, they did not continue working together the following year (Walther-Thomas, 1997).

In a study by Austin (2001) of 139 collaborative teachers from nine school districts in northern New Jersey, only 37 co-teachers indicated that they had volunteered to co-teach. Co-

teaching should be voluntary and should not be forced on those teachers that do not want to participate (Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012).

A common concern about co-teaching is finding common planning time (Bessette, 2007; Buerck, 2010; Pearl et al., 2012; Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012; Walther-Thomas, 1997). Murray (2004) conducted a multiyear study with 30 general education teachers in three urban high schools. When the teachers were asked for items to include in a “dream list” of special educator responsibilities, they noted common planning time on at least a weekly basis as a critical factor. Kohler-Evans (2006) surveyed teachers in 15 school districts regarding their co-teaching experiences. The issue they most frequently named as affecting their relationship with their co-teaching partner was common planning time.

Based on teacher feedback, Pearl et al. (2012) found planning prior to the start of co-teaching is important. Teacher need time to develop and create meaningful roles for both teachers, ideas for moving beyond over-reliance of the lead-support teaching style, grading students, providing effective accommodations, and the need to address state standards while meeting individual needs are challenging in a co-teaching setting.

Heck, Bacharach, and Dahlberg (2008) have researched co-teaching between student teacher candidates and their cooperating teacher. These authors found that it is not possible to successfully co-teach without dedicated planning time and communication skills. They found that teachers also need knowledge and understanding of the co-teaching strategies and a commitment to use these strategies in the classroom.

In some co-taught classrooms, the fundamental structure, instructional style, and leadership do not change. The general education teacher assumes that the special education teacher's presence should not have any impact on the class. When the classroom teacher does not include the special education teacher into the lesson, then the special education teacher is often functions as a paraprofessional or student teacher in the class (Friend & Reising, 1993). Weiss and Lloyd (2002) found that a lack of training and support results in the special education teacher assuming the role of monitoring students in the classroom during the co-teaching situations. Poorly defined role descriptions can cause co-teaching relationships to fail (Walter-Thomas, 1997). In Takala and Uusitalo-Malmivaro's study (2012), many co-teachers complained that they were seen as an assistant or discipline keeper. Middle school special educators expressed that they are under-utilized and overextended by being expected to know the classroom curriculum (Bessette, 2007).

Murwaski and Dieker (2004) stated that teachers are sometimes faced with schedules created before co-teaching teams are assigned and as a result, students with disabilities are often placed in classes that are already full. Special educators, especially at the secondary level, are assigned to work with multiple teachers during the same class period (Bauwens, 1989; Murwaski & Dieker, 2004). This means that teachers are not able to effectively collaborate with anyone and have increased workloads. Special education teachers noted that their caseloads were so large that it was tough for them to leave their resource room to go co-teach (Walther-Thomas, 1997).

Co-teaching is not necessarily the right service delivery model for all schools, teachers, and students (Weiss & Lloyd, 2002). Co-teaching can be labor intensive (Roth &

Tobin, 2004) and the infrequent use of individualized instruction for students is a problem (Cook et al, 2010). Scruggs and Mastropieri (1996) stated that high school settings presented greater challenges for co-teachers because of the emphasis on content area knowledge, the need for independent study skills, the faster pacing of instruction, high stakes testing, less positive attitudes of teachers, and the inconsistent success of strategies that were effective at the elementary level.

Cole and McLeskey (1997) identified major issues that often affect the success of co-teaching at the secondary level. These issues included an emphasis on curriculum, a lack of academic skills and learning strategies by students with disabilities, classroom teachers prepared as content specialists with little knowledge regarding adaptations for students with disabilities, and an increased pressure for accountability—usually in the form of standardized proficiency testing.

A lack of administrator support and expectations/role definitions of co-teaching was a frustrating point for teachers (Bessette, 2007; Scruggs et al., 2007; Takala & Ususitalo-Malmivaaro, 2012; Walter-Thomas, 1997). Elementary special educators cited concerns about the way they were “married” to classroom teachers without having input in the arrangement. Compatibility between partners is important in order for the relationship to develop and become successful (Scruggs et al., 2007). Administration needs to provide training on co-teaching in order for teachers and students to fully benefit (Bessette, 2007). In a survey of 408 elementary principals in Pennsylvania, 21.1% of the principals were clearly positive about inclusions and 2.7% were negative. The rest, 76.6%, of the principals were within the uncertain range—neither strongly for or against inclusion for students with disabilities

(Praisner, 2003). A majority of the teachers indicated they were unclear as to what their role was in the co-teaching classroom. There were many reasons given for this including a lack of clarification from the administration, underdeveloped relationships with co-teachers, assignment to undesirable content areas, and having to work with more than two co-teachers each day (Buerck, 2010).

Students with disabilities are often placed in classes that have the maximum number of student in them if co-teaching is not planned in advanced. Special educators often are assigned to work with multiple teachers during the same class period, and thus, the teachers are not able to collaborate effectively with anyone (Murawski & Dieker, 2004). In a survey of ten general education teachers and six special education teachers who co-taught together in a southeastern Missouri high school, two themes emerged: the need for quality professional development and training activities and clearly define the roles of each co-teacher in the pair (Buerck, 2010).

In a study of teachers in Helsinki, Finland, co-teaching initiative remained marginal, despite the recommendation that co-teaching is a promising way to instruct heterogeneous classrooms and support students with learning disabilities (Saloviita & Takala, 2010). When asked the reasons why they did not use co-teaching, teachers reported a lack of belief in its instructional value and the difficulty to find common planning time. To increase participation in co-teaching, monetary incentives were being offered to teachers in Helsinki schools. A merit salary payment is being used for teachers who use co-teaching at least 7 hours a week and to schools would use co-teaching in at least 5% of all their lessons. During a 1-year

follow-up by Takala and Uusitalo-Malmivaara (2012), interest and implementation of co-teaching did not grow although monetary compensation was available.

Middle school general and special educators expressed there are too few special educators to go around keeping co-teaching viable in many academic subjects (Bessette, 2007).

Co-teachers expressed that they had felt abandoned by their administrators –left to “fend for themselves” when they first started co-teaching (Bessette, 2007).

Moore and Keefe (2001) conducted interviewed general and special education teachers co-teaching in elementary and high schools and reported concerns about adequate planning time, administrative support, resources, professional development, and teacher willingness to participate. High school teachers implementing co-teaching felt additional barriers existed because of larger class sizes, seeing many more students each day, large school size, and unclear roles of general and special education teachers.

Summary

This chapter presented a review of the related literature as it pertains to co-teaching. In chapter III, you will be presented with the methodology employed in conducting the study, including an overview of methods, research design, setting and participant process, and data collection and analysis. Chapter IV details the findings of the study and Chapter V describes the summary, conclusions, recommendations, and suggestions for further research.

Chapter III: Methodology

Introduction

Federal statutes require that students with disabilities be taught to the extent deemed feasible with their general education peers by highly qualified teachers. These mandates challenge school districts to design and deliver special education services that students would best meet eligible students' needs. Co-teaching was one such delivery model.

Co-teaching is designed to address the individual needs of students in an inclusive classroom by having a general education teacher and a special education teacher in the same classroom (Murawski & Dieker, 2008). In 1994, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently used special education service delivery model for inclusive classrooms. In 2003, the European Agency for Development in Special Needs Education stated that co-teaching was one of the five educational approaches that appeared to be an effective inclusive education model (Saloviita & Takala, 2010). The purpose of co-teaching is to ensure that special education students have access to the general curriculum, while benefiting from specialized instructional strategies (Friend et al., 2010). Limited research was found to ascertain whether or not school districts that are implementing co-teaching are doing so in a manner that is consistent with research on the importance and presence of known factors that lead to successful co-teaching.

In order for students and teachers to achieve maximum benefit from co-teaching, certain elements, including the characteristics, teaching methods, benefits and barriers for students and teachers that need to be addressed. The purpose of this study is to examine

co-teaching in a select school district to determine the presence of these elements in their co-teaching model that lead to successful co-teaching.

The study addressed the following research questions:

- What co-teaching characteristics do general and special education teachers identify as present in their school district?
- What co-teaching teaching methods do general and special education teachers identify as present in their school district?
- What benefits and barriers do general and special education teachers identify about co-teaching for students and teachers?

Research Design

This study employed a case study research methodology to extensively evaluate a single program or setting (Slavin, 2007). Further, the study incorporates qualitative and quantitative research methods, creating a mixed-methods study. Quantitative research involves the collection of numerical data and information from participants to determine the relationship between them (Slavin, 2007). Qualitative research methods focus on discovering and understanding the experiences, perspectives, and thoughts of participants (Hiatt, 1986). Based on the research questions, a mixed method research study was determined to be the most effective design to secure a more comprehensive understanding of the delivery of co-teaching in select school districts.

Data were collected through an online survey and an interview of co-teachers in select schools. Survey research involves collecting information from a sample of individuals by asking them questions and securing responses from them (Check & Schutt, 2011). An open-ended interview permits the researcher to gather responses to questions that cannot be answered simply and yields data that are more complete (Slavin, 2007).

Instrumentation for Data Collection and Analysis

Based on the research of factors that result in successful co-teaching, the researcher created survey tool instruments that were used to gather data from study participants. The survey instrument gathered basic demographic data, including teacher type (general or special education) of each participant, grade level taught (elementary or secondary), number of years respondents had taught, and the class or classes the respondents co-taught. The survey further requested that respondents report frequency of use of co-teaching instructional methods, student benefits resulting from co-teaching, teacher benefits resulting of co-teaching, and type of administrative support. The respondents also identified which teacher is responsible for specific tasks of the co-teaching arrangement.

Six study participants, two each at the elementary, middle school, and high school level, were asked to participate in an interview with open ended questions developed by the researcher about co-teaching. The interview sought a deeper examination of questions that were included on the survey. Interview questions focused on professional development, administrative support, and the benefits and barriers of co-teaching for students and teachers.

The survey was completed electronically by each study participant. Interviews were completed by telephone with each of the participants. The interviews were recorded to allow the researcher to review data at a later time.

The researcher piloted the survey tool with a select group of administrators and then with several classroom teachers. From this pilot, survey and interview questions were adjusted for clarity.

Participants

The researcher selected three school districts in Minnesota which employ a co-teaching methodology for delivering instruction to special education students from the pre-school level to high school level. The sample for this study was a sample of convenience. The respondents chosen to participate in the study were special and general education teachers involved in co-teaching in the sample school districts.

To select the school districts to participate in the study, the researcher contacted Minnesota Association for Special Education (MASE) to request assistance in identifying possible respondents. The Coordinator of Professional Development for MASE distributed an email to 322 special education administrators in Minnesota on behalf of the researcher. Among the special education administrators contacted were special education directors, assistant special education directors, special education supervisors/coordinators/managers, superintendents, and directors of special services, all MASE members. The special education administrators were asked to respond to a two question electronic survey linked to the e-mail. The survey requested the administrators to identify the districts with which they worked that were involved in co-teaching and the names of the specific schools in which co-teaching was implemented. A comment box was provided for the responding administrator to furnish additional comments if they desired. One week after distribution of the email by the MASE administrator, the researcher also communicated by email with all special education directors listed on the Minnesota Department of Education's website and requested they complete the short survey.

The researcher compiled a list of 86 schools in 42 school districts in Minnesota that employed a co-teaching methodology. From the list of the 86 schools, the researcher was able to identify five school districts that were delivering a co-teaching model at both the elementary and secondary levels. The researcher subsequently contacted those schools to inquire about the extent to which co-teaching was being implemented in each school district. The researcher then selected three school districts that had been implementing co-teaching on a district-wide basis. The three school districts chosen were a sample of convenience. The researcher had contacts in all three districts that were able to help get support from the school administrator to complete research in the district.

One of the selected school districts was a large district located in the Minnesota metropolitan area. The school district enrolled 27,000 students and operated 18 elementary schools, 6 middle schools, and 6 high schools in 2015. The school district implemented an optional co-teaching cohort to assist in the training of teachers involved in co-teaching. The district operated 40 co-teaching partnerships: 14 at the elementary level, 18 at the middle school, and 8 at the high school level. In the first year of the co-teaching cohort implementation, 28 co-teaching partnerships were created. In year two, three additional co-teaching partnerships were created by the school district. In the following 3 years, nine additional co-teaching partnerships were created by the school district. Several of the special education teachers involved in the co-teaching cohort teach with more than one general education teacher. The district has 74 teachers participating in co-teaching.

The second school district selected for the study is located in central Minnesota. It has three elementary schools, one middle school, and one high school. The district has 2,800

students enrolled. The district had started co-teaching in previous years, stopped, and started up again in 2012. The district has 16 teachers who are co-teaching.

The third school district selected for the study was also located in central Minnesota. The school is a PreK through 12th grade school with 950 students. The district reported that they received a grant to have an outside agency provide training on co-teaching, including monthly observations of teachers co-teaching and meet with co-teaching staff related to the observations. The district has ten teachers who are co-teaching.

Human Subject Approval–Institutional Review Board (IBR)

The researcher submitted a request for approval of the study and instruments by the Institutional/Review Board (IRB) of St. Cloud State University. The request was approved. The study's respondents were informed that they were at liberty to withdraw from involvement in the study at any time, the results of the study survey are confidential, and the participants not be asked to provide identifiable information. All data was entered in an electronic database to insure that the researcher was unable to access responses from any specific respondent.

Procedures and Timeline

Special education directors in Minnesota were contacted through electronic mail in November and December, 2014, for assistance in locating school districts and schools that employ the co-teaching methodology. From the list, the researcher was able to identify five school districts that implemented co-teaching at both the elementary and secondary levels. In January, 2015, the researcher contacted three of the five school district superintendents to inquire as to interest in participating in a case study on co-teaching. The researcher sought a

minimum of ten teachers in the school district who were willing to participate in the study.

The school administrators in all three districts agreed to participate in the case study.

The researcher collaborated with the school district's co-teaching cohort facilitator, curriculum director, and special education director to contact those who co-teach in the districts. The school district staff disseminated information about the study to the participants on behalf of the researcher before the study was initiated. Each teacher involved in co-teaching in the district receive an explanation email from the researcher about the research project and the purpose of the study. The e-mail included an electronic link to the survey for participants to complete. Reminder e-mails were distributed each week for 3 weeks, until a minimum of 60 responses were received.

Following the receipt of surveys from respondent teachers, the researcher completed structured interviews to secure answers to interview questions. Twenty-one teachers volunteered to be a part of the interview. The researcher put the teachers in categories by teaching setting (elementary, middle, and high school). Two teacher's names were randomly drawn from each teaching setting. The researcher e-mailed the respondents and got no reply from any respondents. A second e-mail was sent out a week later and again no reply was received. The researcher e-mailed all respondents and six returned an e-mail—the minimum number of respondents to the study. The volunteers were from elementary, middle school, and high school settings. The respondent's interviews were recorded to permit the researcher to examine their responses at a later time.

Descriptive statistics were used to examine the study data. Slavin (2007) defined descriptive statistics as statistics that involve such measurements as the mean and standard

deviation to summarize information. For the purpose of this study, basic statistical information such as mean, standard deviation, and degrees of freedom were employed. The researcher used frequency distribution, independent samples t-tests and one-way ANOVAs to compare general and special education teachers' responses. All data were downloaded into the Statistical Package for Social Sciences (SPSS) for analysis.

Summary

Chapter III discussed the methodology used in this study, including the purpose of the study, research questions, participants, instrumentation and analysis, research design, and procedures and timeline. Chapter IV summarizes the findings of the study. Chapter V presents the conclusions, implications, and recommendations for further studies relating to co-teaching.

Chapter IV: Data Analysis

The education of children with disabilities in the general education classroom has evolved over many years. The popularity of inclusive education became widespread in the 1980's (Friend et al., 2010). It began as a civil rights movement, based on the rationale that all children—disabled and non-disabled—should have access to the same academic and social opportunities within the school (Sailor, 2002).

In 2006, 95% of the special education students aged 6 to 21 years were educated in regular classrooms for at least 50% or more of their school day (U.S. Department of Education, 2008). To serve special education students in the general education classroom, schools began implementing several different inclusion models. One of those models was cooperative teaching, also called co-teaching. Co-teaching is characterized as a general education teacher and a special education teacher or another specialist collaborating for the purpose of delivering instruction together to students, including students with disabilities, in the general education setting (Friend et al., 2010). Co-teaching was designed to address the needs of students in an inclusive classroom by having a general education and special education teacher in the same classroom to meet the needs of individual students (Murawski & Dieker, 2008).

Co-teaching has become an increasingly common option for educating students with disabilities in order to comply with the federal mandates (Friend & Cook, 2014). In 1994, the National Center on Educational Restructuring and Inclusion reported that co-teaching was the most frequently employed special education service delivery model for inclusive classrooms. The European Agency for Development in Special Needs Education stated in 2003 that

co-teaching was one of the five educational approaches that appeared to be effective within the inclusive education model (Saloviita & Takala, 2010). Now, more than a decade after passage of the No Child Left Behind Act, the popularity of co-teachings has only increased (Kloo & Zigmond, 2008).

Murawski and Swanson (2001) completed a meta-analysis of co-teaching studies to determine the impact of co-teaching on students. They reviewed six studies and found the overall mean impact of co-teaching to be 0.40, suggesting that it is a moderately effective procedure for influencing student outcomes. Quantitative and qualitative research over the past 20 years has consistently established that students in co-taught classrooms learn more and perform better on academic assessments than do special education students taught in more restrictive service delivery models (Walsh, 2012).

In order for students and teachers to achieve maximum benefit from co-teaching, certain elements, including the characteristics, instructional teaching methods of co-teaching, and benefits and barriers of co-teaching for students and teachers need to be addressed. The purpose of this study was to examine co-teaching in a select sample of school districts to determine the presence or absence of co-teaching elements in their co-teaching models that lead to successful co-teaching. This chapter reports the findings generated by this study.

This study employed a case study research methodology to extensively evaluate a single program or setting (Slavin, 2007). Further, the study incorporated qualitative and quantitative research methods, creating a mixed-methods study. Quantitative research involved the collection of numerical data and information from participants to determine the

relationship between them (Slavin, 2007). Qualitative research methods focused on discovering and understanding the experiences, perspectives, and thoughts of participants (Hiatt, 1986). Based on the research questions, a mixed method research study was determined to be the most effective design to secure a more comprehensive understanding of the delivery of co-teaching in select school districts.

Research Questions

The study examined three research questions. Those research questions included:

- What co-teaching characteristics do general and special education teachers identify as present in their school district?
- What co-teaching teaching methods do general and special education teachers identify as present in their school district?
- What benefits and barriers do general and special education teachers identify about co-teaching for students and teachers?

Description of Sample

The researcher contacted the Minnesota Association for Special Education (MASE) for assistance in selecting the school districts to participate in the study. As a result, the Coordinator of Professional Development for MASE distributed an email to 322 special education administrators in Minnesota on behalf of the researcher seeking school districts that used co-teaching. One week after distribution of the email by the MASE administrator, the researcher also communicated by email with all special education directors listed on the Minnesota Department of Education's website and requested information about their co-teaching practices.

The researcher compiled a list of 86 schools in 42 school districts in Minnesota that were employing a co-teaching methodology. From the list of the 86 schools, the researcher

was able to identify five school districts that were delivering a co-teaching model at both elementary and secondary levels. The researcher subsequently contacted those schools to inquire about the extent to which co-teaching was being implemented in each district. The researcher then chose three districts that had been implementing co-teaching on a district-wide basis. The districts chosen to participate were chosen based on meeting the minimum qualifications to participate in the study—at least 10 teachers co-teaching and co-teaching was happening district wide—and the researcher had a reference in each school district that helped get support from the district administrator for the study to be completed in the district.

One of the selected school districts was a large district located in the Minnesota metropolitan area. The school district enrolled 27,000 students and operated 18 elementary schools, 6 middle schools, and 6 high schools in 2015. The school district implemented an optional co-teaching cohort to assist in the training of teachers involved in co-teaching. The district operates 40 co-teaching partnerships: 14 at the elementary level, 18 at the middle school, and 8 at the high school level. In the first year of the co-teaching cohort implementation, 28 co-teaching partnerships were created. In year two, three additional co-teaching partnerships were created by the school district. In the following 3 years, nine additional co-teaching partnerships were created by the school district. Several of the special education teachers involved in the co-teaching cohort teach with more than one general education teacher. The district had 74 teachers participating in co-teaching.

The second district selected for the study was located in central Minnesota. It had three elementary schools, one middle school, and one high school. The district had 2,800

students enrolled. The district started co-teaching in previous years, stopped, and started up again in 2012. The district had sixteen teachers who were co-teaching.

The third school district selected for the study was also located in central Minnesota. The school is a PreK through 12th grade school with 950 students. The district reported that they received a grant to have an outside agency provide training on co-teaching, including monthly observations of teachers co-teaching and meet with co-teaching staff related to the observations. The district has ten teachers who are co-teaching.

Data were collected from teachers involved in co-teaching through an online survey and an interview of select co-teachers who responded to the survey. Survey research involved collecting information from a sample of individuals by asking them questions and securing their responses (Check & Schutt, 2011). An open-ended interview permits the researcher to gather responses to questions that cannot be answered simply and yields data that are more complete (Slavin, 2007). Analysis of the data was completed using the Statistical Package for Social Science (SPSS). A summary of descriptive data of those surveyed is presented along with the findings for each of the research questions.

Quantitative and Qualitative Results

The first section of the study reported demographic information including primary teaching role, years of teaching, and number of years of co-teaching. These results are represented in Table 1.

Table 1

Demographics of Respondents

Demographic	<i>N</i>	%
Primary teaching role		
General education teacher	46	54.8%
Special education teacher	37	44.0%
No response	1	1.2%
Years of teaching		
First year	2	2.4%
2-5 years	10	11.9%
6-9 years	8	9.5%
10 or more years	63	75.0%
No response	1	1.2%
Years of co-teaching		
First year	47	56.0%
2-5 years	24	28.6%
6-9 years	4	4.8%
10 or more years	4	4.8%
Varies	1	1.2%
No response	4	4.8%

The study yielded a high response rate ($N = 84$) based on the number of teachers co-teaching in the three participating school districts. A representative sample was obtained across the participants' primary teaching role. Forty-four percent ($N = 37$) of teachers who responded to the survey were special education teachers, while 54.8% ($N = 46$) of the respondents were general education teachers. Seventy-five percent ($N = 63$) of survey respondents reported they had taught for 10 or more years. Of those responding to the survey, 56% ($N = 47$) reported they were in their first year of co-teaching, while 4.8% of respondents ($N = 4$) reported they had been co-teaching for 10 or more years.

Research Question One

What co-teaching characteristics do general and special education teachers identify as present in their school district? When considering co-teaching characteristics, several factors needed to be established in order for co-teaching to be successful. This research question examined the grade levels taught, subjects taught, number of co-taught class periods, number of special education and general education students in the co-taught classroom, common teacher planning time, district support, and the teacher relationship. Data pertaining to this research question were gathered using questions from the special education and general education teacher survey and follow up interviews with select teachers.

Basic statistical information such as mean, standard deviation, and degrees of freedom were employed in the analysis of data. The researcher used frequency distribution, independent samples t-tests and one-way ANOVAs to compare general and special education teachers' responses. All data were downloaded into the Statistical Package for Social Sciences (SPSS) for analysis.

Table 2 describes the grade level taught by the respondents using a frequency distribution. Respondent teachers were permitted to choose among elementary (pre-K–5th grade), middle school (6th–8th grade), and high school (9th–12th grade).

Table 2

Respondent Grade Level Taught

Demographic	<i>N</i>	%
Grade Level Taught		
Elementary (pre-K – 5 th grade)	30	35.7%
Middle school (6 th – 8 th grade)	39	46.4%
High school (9 th – 12 th grade)	13	15.5%
No response	2	2.4%

The respondents reported teaching 35.7% at the elementary level ($N = 30$); 46.4% at the middle school level ($N = 39$); and 15.5% from the high school level ($N = 13$).

The academic subjects the respondents co-taught are presented in Table 3.

Respondents were asked to select all subjects in which they co-taught if they co-taught several subjects. Both general and special education teachers responded to this question. Possible subjects included science, social studies, mathematics, English/reading, and other.

Table 3

Subjects Co-Taught

Demographic	<i>N</i>	%
Subjects Co-Taught		
Science	10	11.9%
Social studies	7	8.3%
Mathematics	27	32.1%
English/reading	63	75.0%
Other	4	4.8%

Respondents reported they co-teach in English or reading classes 75.0% ($N = 63$) of the time. Mathematics was the next largest subject co-taught (32.1%; $N = 37$) followed by science (11.9%; $N = 10$), and social studies (8.3%; $N = 7$).

The number of respondent's co-taught class periods are represented by a frequency distribution in Table 4. Both general and special education teachers responded to this question. Response options included teaching one, two, three, or four or more co-taught classes.

Table 4

Periods Co-Taught

Demographic	<i>N</i>	%
Periods Co-Taught		
One	36	42.9%
Two	32	38.1%
Three	5	6.0%
Four or more	7	8.3%
No response	4	4.8%

The largest percentage of respondents, 42.9% ($N = 36$) reported they co-taught one period a day, while 38.1% ($N = 32$) reported they co-taught two periods a day. Six percent ($N = 4$) co-taught three periods a day and 8.3% ($N = 7$) co-taught four or more periods a day.

Table 5 reports the percentage of students on IEP's and those not on IEP's in co-taught classrooms. Both general and special education teachers responded to this question. Study participants were given percentage ranges from which they could choose their responses.

Table 5

Percent of Students in Co-Taught Classes

Demographic	<i>N</i>	%
Percent of co-taught students on IEPs		
0-10%	5	6.0%
11-20%	14	16.7%
21-30%	23	27.4%
31-40%	17	20.2%
41-50%	8	9.5%
51% or more	13	15.5%
No response	4	4.8%
Percent of co-taught students not on IEPs		
0-10%	2	2.4%
11-20%	2	2.4%
21-30%	4	4.8%
31-40%	4	4.8%
41-50%	11	13.1%
51% or more	56	66.7%
No response	5	6.0%

The largest percentage of respondents reported that their co-taught classes had between 21% and 30% or 31% and 40% of their students on IEP's ($N = 23$ and $N = 17$). The respondents who reported that the majority of their co-taught classes had 51% or more students not on IEP's numbered 66.7% ($N = 56$).

Table 6 represents the manner in which co-teachers became involved in co-teaching. Both general and special education teachers responded to this question. Respondents selected responses from the following items: volunteered, administrator recommended involvement, administrator assigned, or other.

Table 6

Teacher Involvement in Co-Teaching

Demographic	<i>N</i>	%
How did you get involved in co-teaching?		
Volunteered	34	40.5%
Administrator recommended involvement	8	9.5%
Administrator assigned	31	36.9%
Other	7	8.3%
No response	4	4.8%

The largest percentage of teachers became involved in co-teaching either by volunteering (40.5%; $N = 34$) or by their administrator assigning them to co-teaching (36.9%; $N = 31$). Some 9.5% ($N = 8$) of respondents became involved in co-teaching through an administrator recommendation.

Table 7 reports the manner in which the co-teachers were paired with a co-teaching partner. Both general and special education teachers responded to this question. Options from which respondents were to choose included being assigned by their administrator, selecting their co-teaching partner, having a large amount of shared students with their co-teaching partner, and other.

Table 7

Co-Teaching Partner Pairing

Demographic	<i>N</i>	%
How did you get paired with your co-teaching partner?		
I was assigned by my administrator	52	61.9%
I selected my co-teaching partner	13	15.5%
I had a large amount of shared students with my co-teaching partner	7	8.3%
Other	7	8.3%
No response	5	6.0%

The highest percentage of respondents, 61.9% ($N = 52$), reported that they were assigned their co-teaching partner by their administrator. The second highest percent, 15.5% ($N = 13$), reported that they selected their co-teaching partner.

Table 8 displays the amount of scheduled common planning time teachers had with their co-teacher. Time responses ranged from having 1-30 minutes per week to having no common planning time.

Table 8

Amount of Common Planning Time

Demographic	<i>N</i>	%
Amount of scheduled common planning time with partner		
1-30 minutes per week have been provided	8	9.5%
31-60 minutes per week have been provided	12	14.3%
More than one hour per week has been provided	7	8.3%
We do not have common planning time, but find time on our own	25	29.8%
No common planning time has been provided	27	32.1%
No response	5	6.0%

The largest number of respondents reported they had no common planning time provided (32.1%, $N = 27$) or had no common planning time, but found time on their own to plan (29.8%, $N = 25$). Twenty respondents or 23.8% reported they had between one minute and one hour of common planning time provided.

Table 9 describes the co-teachers relationship with their co-teaching partner. The respondents were asked to rate their relationship, communication, teaching styles, and ability to work together positively.

Table 9

Relationship Statements related to Co-Teaching Partnerships

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Response
My co-teacher and I are equal participants in the teaching process	4.8%	23.8%	13.1%	32.1%	19.0%	7.1%
My co-teacher and I have open and honest communication	0.0%	2.4%	7.1%	36.9%	46.4%	7.1%
My co-teacher and I share behavior management	1.2%	7.1%	4.8%	45.2%	34.5%	7.1%
My co-teacher and I have a positive working relationship	0.0%	1.2%	6.0%	33.3%	51.2%	8.3%
My co-teacher and I are open and willing to try new ideas	1.2%	3.6%	4.8%	38.1%	45.2%	7.1%
My co-teaching partner and I work well together in planning and delivering instruction	1.2%	13.1%	16.7%	32.1%	29.8%	7.1%
My co-teacher and I consistently work with all students, including students with disabilities and those without disabilities	0.0%	1.2%	7.1%	39.3%	45.2%	7.1%
My co-teacher and I are provided with enough time to effectively implement co-teaching strategies	17.9%	27.4%	31.0%	7.1%	9.5%	7.1%

Respondents agreed or strongly agreed on 51.1% of occasions that they were equal participants in the teaching process, while 28.6% disagreed or strongly disagreed that they were equal participants. Respondents reported 83.3% of the time they had open and honest communications with their co-teacher. Respondents strongly agreed or agreed on their responses that they had a positive working relationship with their co-teacher. Respondents reported that they agreed or strongly agreed on 89.7% of occasions that they both shared behavior management of students. Respondents reported a 45.3% rate of disagreement or

strong disagreement that they have enough time to effectively implement co-teaching strategies.

A scale was calculated combining responses to each of the items in Table 9 so that statistical testing could be applied to determine if responses differed in relation to several variables, including primary teaching role, district location, and grade-level taught. The scale is comprised of eight items and ranges from strongly disagree (-2) to strongly agree (+2). Independent samples t-tests revealed there were no significant differences reported in a teacher's positive relationship with his or her co-teaching partner based on primary teaching role, $t(76) = -0.17, p = .867$, or district location, $t(76) = -0.55, p = .582$. A one-way ANOVA was conducted to test whether there were differences in the agreement with these positive relationship items based on grade-level taught. This test revealed there were differences in the reported relationship based on grade-level taught, $F(2, 75) = 4.08, p = .021$. Due to the significant results, Tukey's HSD post-hoc test was conducted to reveal where the significant differences occurred. Post-hoc tests revealed elementary teachers ($M = 1.2, SD = 0.7$) reported stronger overall agreement with the positive relationship with their co-teaching partner items than middle school teachers ($M = 0.8, SD = 0.6$).

Research Question Two

What co-teaching teaching methods do general and special education teachers identify as present in their school district? Research question two focused on co-teaching instructional teaching methods. These methods included: both teachers being viewed as the teacher in the classroom, teachers having shared responsibilities, clearly defined roles and responsibilities, and the use of a variety of instructional teaching methods. Data pertaining to this research

question were gathered using questions from the special education and general education teacher survey and follow up interviews with teachers.

Basic statistical information such as mean, standard deviation, and degrees of freedom were employed in analyzing the data. The researcher used frequency distribution, independent samples t-tests and one-way ANOVAs to compare general and special education teachers' responses. All data were uploaded into the Statistical Package for Social Sciences (SPSS) for analysis.

Table 10 presents data on the most common co-teaching styles reported by participants. The co-teaching styles included one teach, one drift; alternative teaching; parallel teaching; and team teaching. Definitions of each style were provided to responding teachers.

Table 10

Report Co-Teaching Styles

	Four or More Times a Week	Two to Three Times a Week	One Time a Week	Never	No Response
One teach, one drift	48.8%	29.8%	11.9%	2.4%	7.1%
Alternative teaching	9.5%	25.0%	34.5%	23.8%	7.1%
Parallel teaching	1.2%	9.5%	41.7%	39.3%	8.3%
Team teaching	13.1%	22.6%	21.4%	34.5%	8.3%

The respondents indicated that the most common teaching style used while co-teaching was the one teach, one drift style, with 48.8% of the respondents reporting they used this style four or more times a week. Parallel teaching was reported to be used least frequently, with 39.3% of respondents never having used it and 41.7% having used it one time a week. Respondents also reported that they rarely used alternative teaching. Respondents

who reported using this style one time a week totaled 35.4%, while 23.8% reported never using this style.

Table 11 reports which teacher, the general education teacher, the special education teacher, both teachers, or neither teacher was responsible for performing select teaching tasks. Those tasks included planning the lesson, teaching the lesson, evaluating student learning, and handling discipline issues. Table 11 also details who decides what modifications/accommodations will be made during the lesson, who determines what grouping/teaching style will be used, and who is identified in the classroom (has a desk, name on the board) as the teacher.

Table 11

Reported Responsibilities of Teachers in Co-Teaching Relationships

	General Education Teacher	Special Education Teacher	Both Teachers	Neither Teacher	No Response
Is responsible for planning the lesson	47.6%	0.0%	46.4%	0.0%	6.0%
Is responsible for teaching the lesson	38.1%	0.0%	56.0%	0.0%	6.0%
Is responsible for evaluating student learning	33.3%	1.2%	59.5%	0.0%	6.0%
Handles discipline issues in the co-taught classroom	9.5%	4.8%	79.8%	0.0%	6.0%
Determines what modifications/accommodations will be made to the lesson	6.0%	15.5%	72.6%	0.0%	6.0%
Determines what grouping/teaching style will be used	17.9%	2.4%	72.6%	1.2%	6.0%
Has a desk/area in the classroom	76.2%	0.0%	14.3%	3.6%	6.0%
Name is on the board/syllabus/door	61.9%	0.0%	29.8%	1.2%	7.1%

The respondents reported, fairly consistently, that either the general education teacher (47.6%) or both teachers (46.4%) were responsible for planning the lesson. Similar results were reported for who was responsible for teaching the lesson (38.1% and 56.0%) and

evaluating student learning (33.3% and 59.5%), with either the general education teacher or both teachers being responsible. Respondents reported that both the general and special education teacher handle discipline issues in the co-taught classroom 79.8% of the time, determine what modifications/accommodations will be made to the lesson 72.6% of the time, and determine what grouping/teaching style will be used 72.6% of the time. The overall responses indicated that the general education teacher—not the special education teacher—had a desk/area in the classroom (76.2%) and their name on the board/syllabus/door (61.9%).

Research Question Three

What benefits and barriers do general and special education teachers identify about co-teaching for students and teachers? Research question three focused on the impact of co-teaching on students with and without disabilities, administrative support, and teachers' self-reflection of their co-teaching experience. Data pertaining to this research question were gathered using questions from the special education and general education teacher survey and follow up interviews with teachers.

Basic statistical components such as mean, standard deviation, and degrees of freedom were employed to analyze the data. The researcher used frequency distribution, independent samples t-tests and one-way ANOVAs to compare general and special education teachers' responses. All data were downloaded into the Statistical Package for Social Sciences (SPSS) for analysis.

The response of teachers' perceptions to the impact of co-teaching on students with disabilities is represented in Table 12. This question examines academic improvement, social

skills, and self-esteem of students with disabilities in a co-taught class, and also the ability of students with special needs to receive more help.

Table 12

Respondents Perceptions of Co-Teaching on Students with Disabilities

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Response
Students with disabilities have improved their academic skills as a result of co-teaching	1.2%	4.8%	13.1%	53.6%	20.2%	7.1%
Students with disabilities have improved their social skills as a result of co-teaching	2.4%	3.6%	15.5%	47.6%	23.8%	7.1%
Students with disabilities have improved their self-esteem as a result of co-teaching	2.4%	4.8%	13.1%	48.8%	23.8%	7.1%
Students with disabilities get more help because of the co-teaching than they might in a non-co-taught classroom	2.4%	2.4%	2.4%	50.0%	35.7%	7.1%

Respondents strongly agreed or agreed that co-teaching had a positive impact on students with disabilities. Respondents reported they agreed (53.6%) or strongly agreed (20.2%) that student with disabilities had improved their academic skills as a result of co-teaching. Similarly, 71.4% of respondents agreed (47.6%) or strongly agreed (23.8%) that student with disabilities had improved their social skills as a result of co-teaching.

Respondents agreed or strongly agreed that students with disabilities had improved their self-esteem (72.6%) and were able to receive more help in the co-taught class than in the non-co-taught class (85.7%).

A scale was created combining responses to each of these survey items so that statistical testing could be applied to determine if responses differed in relation to several variables, including primary teaching role, district location, and grade-level taught. The scale

is comprised of four items and ranges from strongly disagree (-2) to strongly agree (+2). Independent samples t-tests revealed there were no significant differences reported in a teacher's response to impact of co-teaching on students with disabilities based on primary teaching role, $t(76) = -0.05, p = .958$, or district location, $t(76) = -0.54, p = .592$. A one-way ANOVA was conducted to test whether or not there were differences in the agreement with these impact on students with disabilities items based on grade-level taught. This test revealed there were no significant differences in the reported impact based on grade-level taught, $F(2, 75) = 0.06, p = .939$.

Table 13 reports the respondents' overall ratings on the impact of co-teaching on students without disabilities. This question examined the improved academic, social skills, self-esteem of students without disabilities in a co-taught class, and the ability of students without special needs receiving additional help.

Table 13

Respondents Perceptions of Co-Teaching on Students without Disabilities

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Response
Students without disabilities have improved their academic skills as a result of co-teaching	1.2%	8.3%	15.5%	53.6%	15.5%	6.0%
Students without disabilities have improved their social skills as a result of co-teaching	0.0%	6.0%	26.2%	41.7%	20.2%	6.0%
Students without disabilities have improved their self-esteem as a result of co-teaching	0.0%	6.0%	33.3%	36.9%	17.9%	6.0%
Students without disabilities get more help because of the co-teaching than they might in a non-co-taught classroom	3.6%	3.6%	10.7%	44.0%	32.1%	6.0%

Respondents agreed (53.6%) or strongly agreed (15.5%) that students without disabilities improved their academic skills as a result of co-teaching. Respondents agreed (41.7%) or strongly agreed (20.2%) that students without disabilities improved their social skills as result of co-teaching. Respondents agreed (36.9%) or strongly agreed (17.9%) that students without disabilities improved their self-esteem as a result of co-teaching. Participants in the study reported agreement (44.0%) or strong agreement (32.1%) that students without disabilities received more help because of co-teaching than they might have received in a non-co-taught classroom.

A scale was created combining responses to each of these survey items so that statistical testing could be applied to determine if responses differed in relation to several variables, including primary teaching role, district location, and grade-level taught. The scale is comprised of four items and ranges from strongly disagreed (-2) to strongly agreed (+2). Independent samples t-tests revealed the teachers impact on co-teaching on students without disabilities by primary teaching role approached significance, $t(77) = -1.74, p = .086$. Although the result was not significant, special education teachers ($M = 1.0, SD = 0.7$) reported slightly stronger agreement with the positive impact on students without disabilities than general education teachers ($M = 0.7, SD = 0.8$). There were no significant differences found in the reported impact of co-teaching students without disabilities based on district location. A one-way ANOVA was conducted to test whether or not there were differences in the agreement with the impact of co-teaching students without disabilities. A significant difference was found, $F(2, 76) = 4.16, p = .019$. Tukey's HSD post-hoc test revealed that elementary teachers ($M = 1.1, SD = 0.6$) reported stronger overall agreement with the impact

of co-teaching for general education students than did middle school teachers ($M = 0.6$, $SD = 0.8$).

Table 14 describes responses related to administrative and district support for co-teaching. Respondents were asked to select a preferred response regarding their administrator having created a school culture that valued co-teaching, the district having provided sufficient professional development, and the support provided by their administrator regarding co-teaching.

Table 14

Percent of Respondents Who Agree with the Administrative Support Statements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Response
My administrator creates a school culture in which co-teaching is valued	2.4%	7.1%	19.0%	42.9%	21.4%	7.1%
The district provides sufficient professional development opportunities related to co-teaching	3.6%	11.9%	10.7%	45.2%	21.4%	7.1%
I have support in co-teaching from my administration	0.0%	10.7%	16.7%	39.3%	26.2%	7.1%

Respondents agreed (42.9%) or strongly agreed (21.4%) that the administrator created a school culture in which co-teaching is valued. Respondents reported 66.6% of the time that they agreed or strongly agreed that the district provided sufficient professional development opportunities related to co-teaching. Four of the six respondents interviewed reported that the district provided co-teaching training, mostly in the summer. Two respondents interviewed reported they had monthly sessions with a consultant who observed them and offered ideas about their co-teaching classroom. A high percentage of respondents agreed (39.3%) or strongly agreed (26.2%) that they had support in co-teaching from their administrator.

A scale was created combining responses to each of these Table 14 items so that statistical testing could be applied to determine if responses differed in relation to three variables, primary teaching role, district location, and grade-level taught. The scale is comprised of three items and ranges from strongly disagreed (-2) to strongly agreed (+2). Independent samples t-tests revealed the respondents agreement with administrative support by primary teaching role was not significant, $t(76) = -1.59, p = .155$. However, the metropolitan city teachers had stronger agreement for administrative support than rural teachers, $t(76) = 2.29, p = .025$. A one-way ANOVA was conducted to test whether or not there were differences in the agreement with administrative support and the impact of co-teaching on students without disabilities. A significant difference was found, $F(2, 75) = 7.67, p = .001$. Tukey's HSD post-hoc test revealed that elementary teachers ($M = 1.2, SD = 0.8$) reported stronger overall agreement with the impact of co-teaching on general education students than did middle school teachers ($M = 0.7, SD = 0.7$) and high school ($M = 0.3; SD = 0.8$) teachers.

Teachers were interviewed regarding the type of administrator support they received in their co-teaching. In analyzing these qualitative data, several trends emerged. Five of the six teachers interviewed reported their administrator provided support as needed, including checking in each month, offering assistance with behaviors, or giving recommendations about methods they can expand or improve. One respondent teacher reported that their administrator had not been involved in the co-teaching process other than to initially assign them to co-teaching and to their partner.

Teacher B supported the research of having administrative support.

They have also really supported my having the same co-teacher so we have maintained a lot of consistency and built up a relationship over the years. One of my co-teachers I have worked with since we started the program...we are talking almost 20 years ago.

Teacher F, also stated that administrative support was available.

When we would go and say we needed common prep, he would figure it out or we need X amount of time or we need this or that, he would figure it out. So, I think that is really the role they have played more than anything.

The responses of co-teachers regarding self-reflection on their co-teaching is represented in Table 15. Both general and special education teachers responded to self-reflection questions on the survey. Teachers were asked to rate their level of agreement with how prepared they felt to co-teaching, if co-teaching was a worthwhile professional experience, and if they understood their role in the co-teaching partnership. Teachers were also asked to respond to whether or not co-teaching had allowed them to explore a wider range of instructional activities, whether or not they felt like an active member of the co-teaching classroom, and if they would co-teach again.

Table 15

Percent of Respondents Who Agree with the Self Reflection Statements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	No Response
I felt prepared to co-teach	3.6%	15.5%	17.9%	45.2%	10.7%	7.1%
Co-teaching is a worthwhile professional experience	0.0%	2.4%	4.8%	42.9%	42.9%	7.1%
I understand my role in my co-teaching partnership	0.0%	3.6%	4.8%	52.4%	32.1%	7.1%
Co-teaching has led to an overall improvement of my teaching	0.0%	3.6%	20.2%	33.3%	35.7%	7.1%
Co-teaching has allowed me to explore a wider range of instructional activities	0.0%	4.8%	17.9%	38.1%	32.1%	7.1%
I feel like an active member of the co-teaching classroom	0.0%	6.0%	6.0%	41.7%	39.3%	7.1%
I would co-teach again if given the opportunity	0.0%	2.4%	10.7%	35.7%	42.9%	8.3%

While 55.9% of respondents agreed or strongly agreed that they felt prepared to co-teaching, 19.1% disagreed or strongly disagreed that they were prepared. Respondents stated that co-teaching is a worthwhile professional experience and understood their role in the co-teaching partnership (85.8% agreed or strongly agreed). Sixty-nine percent of respondents agreed or strongly agreed that co-teaching had led to an overall improvement in their teaching, while 70.2% of respondents agreed or strongly agreed that co-teaching allowed them to explore a wider range of instructional activities. Eighty-one percent of respondents agreed or strongly agreed that they feel like an active member of the co-teaching classroom, and 78.6% of respondents agreed or strongly agreed that they would co-teach again if given the opportunity.

A scale was developed combining responses to each of Table 15 items in order that statistical testing could be applied to determine if responses differed in relation to primary

teaching role, district location, and grade-level taught. The scale was comprised of seven items and used ranges from strongly disagreed (-2) to strongly agreed (+2). Independent samples t-tests revealed the respondents agreement with self-reflection statements by primary teaching role was not significant, $t(76) = -0.80, p = .426$, nor was it significant by district location, $t(76) = 1.32, p = .192$. A one-way ANOVA was conducted to test whether there were differences in the agreement with the self-reflection statements. No significant differences were found, $F(2, 75) = 1.97, p = .146$.

Teachers were interviewed regarding the benefits of co-teaching for teachers. In analyzing these qualitative data, several trends emerged. Five of the six teachers interviewed reported that co-teaching allowed them to have a professional network, provided another adult in the room for support, and made them feel part of a team connected to the classroom. Two of the six teachers reported that co-teaching had allowed them to see different teaching styles. When asked the benefits of co-teaching, Teacher F stated, “We co-taught...four years together and so we just figured it out and it was awesome. By last year, we were seeing huge growth, it was totally doing what it needed to be doing.”

Teacher E noted the same benefit of co-teaching. As special education teacher who was in several different co-teaching classes, Teacher E believed the benefits of co-teaching were wide spread:

I will take something I saw one teacher use during a class and take that to my next class with my next group. I get the opportunity to really work with so many different teachers every day and see them teach. I am like just stealing all of their ideas.

Teacher A, a veteran special education teacher, stated one benefit for her was easier time writing IEP's because of being in the classroom.

For me, personally, it (a benefit) would be feeling more connected to the classroom and more connected to my students. Writing IEP's in the past has been challenging when you don't see the kids or work with the kids all the time.

Teacher E summarized the benefit of co-teaching for her.

Sometimes you feel like you are isolated so it is really nice to have that person who gets it and is in there with you and sees what it is like and you know and the difficulties and the successes and bouncing ideas. There are times we get some pretty high behavior needs in there, and there are times when you just need to look over the heads of the kids and have a little joke with each other.

Four of the six teachers interviewed identified a benefit of co-teaching as exposure to more face to face time and more help because of the additional teacher in the room. Two of the six teachers interviewed stated a benefit were that students were exposed to two different personalities and different teaching styles. Other responses from teachers interviewed included: regular education students became more accepting of students with special needs; special education students had peer models and a broader social experience; and more special education students participated in levels of work and discussions they would not necessarily experience in a pullout classroom.

Teacher A responded with a benefit of co-teaching for both students with disabilities and students without disabilities:

The students overall are more accepting of kids with special needs, so the general ed population is more accepting. They see the differences; they see kids struggle; and they help mentor the kids that are struggling, even on their own. We try to suggest that to them since we can't help everyone all the time, but there are some that aren't high flyers but higher kids...kind of mentor the kids that are struggling more. The classroom is more of a family. They all feel more connected I feel than all of these kids that are all going out to have special ed somewhere else.

The teachers interviewed identified several barriers to co-teaching. Four of the six teachers interviewed mentioned lack of common planning time as a barrier to implementing

co-teaching. Other barriers included having the physical space to conduct co-teaching, scheduling issues, personality differences between the teachers, and general education teacher assuming ownership of the classroom.

Teacher A, who co-teaches with several different general education teachers, stated not having a common planning time as a barrier to co-teaching.

I have the same prep as one of my co-teachers but with my other co-teacher I work with I don't. And that is hard, because you try to find time before school or after school or eat lunch together, those kinds of things. And also, finding time to do my paperwork because during my prep time I am planning with teachers, so I don't have time to do my paperwork, so you are doing a lot of it outside of the school day.

Teacher D discussed in her interview the barrier of cohesiveness between the teachers:

If I was to do it again, I would really...need someone who is on the same page in regards to behavior management expectations and follow through. A lot of my problems came where kids started to going to her for things and get away with things because they knew the rule in the classroom, this is how you sharpen your pencils or whatever, the little things then they would go to her.

Teacher E also cited similar barrier to co-teaching with a regular education teacher in a classroom that was considered his or hers.

It is not my classroom so there are still some rules that the teachers have that apply because it is their classroom and I don't have that kind of ownership. I think sometimes, I don't want to say I don't feel equal but I mean I might not because it's not my classroom.

To sum up her interview, Teacher B had one final comment about co-teaching:

From a teaching standpoint, I really enjoy it but I think it is difficult because you have to do a lot of give and take. With co-teaching that is something you sort of have to leave your ego at the door and realize there are different ways of doing things and you have to have a comfort level because you are sort of exposing yourself to observations by peers, which a lot of us are not comfortable with, but I think once you get over those hurdles, it is well worth the time and energy.

Summary

This study employed a case study research methodology. The study incorporated both qualitative and quantitative research methods, creating a mixed-methods study.

Data collected from co-teachers were analyzed to more clearly define the scope of the practice of co-teaching in select Minnesota school districts. Data analysis was also used to determine those elements of co-teaching that were in place in the co-teaching partnerships

Chapter V will summarize the findings of the study, draw conclusions, and offer recommendations for further research.

Chapter V: Summary, Conclusions, and Recommendations

The teaching of children with disabilities in the general education classroom has evolved over many decades. One such evolution was the introduction of inclusive education in the 1980's, during which co-teaching became widely used (Friend et al., 2010). To serve special education students in the general education classrooms, schools began implementing various forms of inclusion models. One of those models was cooperative teaching, also known as co-teaching.

Co-teaching is frequently described as involving a general education teacher and a special education teacher or another specialist collaborating for the purpose of jointly delivering instruction to students, including those with disabilities, in the general education setting (Friend et al., 2010).

Co-teaching was designed to address the needs of students in an inclusive classroom by pairing a general education and special education teacher functioning collaboratively in the same classroom (Murawski & Dieker, 2008). Co-teaching has become an increasingly common option for educating students with disabilities in order to comply with federal mandates requiring students with disabilities to be educated in the least restrictive environment by highly qualified teachers (Friend & Cook, 2014).

In order for students and teachers to achieve maximum benefits from co-teaching, certain elements of co-teaching, including the characteristics, teaching methods, benefits and barriers for students and teachers, need to be addressed.

The purpose of this study was to examine a select sample of Minnesota school districts to determine the presence or absence of those elements in the districts co-teaching models that lead to successful co-teaching. This chapter reports the findings of this study.

The study employed a case study research methodology to extensively evaluate a single program or setting (Slavin, 2007). Further, a mixed method study was used, incorporating both qualitative and quantitative research methods. Quantitative research involves the collection of numerical data and information from participants to determine the relationship between the data (Slavin, 2007). Qualitative research methods focus on discovering and understanding the experiences, perspectives, and thoughts of participants (Hiatt, 1986). Based on the research questions, a mixed method research study was determined to be the most effective design to secure a more comprehensive understanding of the delivery of co-teaching in select school districts.

The researcher compiled a list of 86 schools in 42 school districts in Minnesota that were employing a co-teaching methodology. From the list of the 86 school districts, the researcher was able to identify five schools districts that were delivering co-teaching models at both the elementary and secondary levels. As a result of school district contacts, the researcher chose three districts that had been implementing co-teaching models on a district-wide basis. The researcher subsequently contacted those three school districts to inquire about participation in the co-teaching study.

Data were collected through an online survey and interviews with select co-teachers who had responded to the survey. Survey research involved collecting information from a sample of individuals by asking them questions and securing their responses (Check & Schutt,

2011). An open-ended interview permits the researcher to gather responses to questions that cannot be answered simply and yields data that were more complete (Slavin, 2007). Data were analyzed using the Statistical Package for Social Science (SPSS). A summary of descriptive data of those teachers surveyed is presented, followed by the findings for each research question.

Research Question One

What co-teaching characteristics do general and special education teachers identify as present in their school district? Respondents were asked to provide answers to eight questions related to the characteristics of co-teaching, including grade level taught, subjects co-taught, number of co-taught class periods, number of general education and special education students in the co-taught class, and how respondents became involved in co-teaching. Survey questions also examined the manner in which the pairing of co-teachers occurred, common planning time, co-teacher relationships, and administrative support.

Of all respondents, 35.7% reported they taught at the elementary school level, while 46.4% taught at the middle school level and 15.5% taught at the high school level. These findings support the literature by Friend and Reising (1993) and Zigmond and Magiera (2001) who reported that co-teaching is most common at the elementary and middle school levels. Scruggs and Mastropieri (1996) stated that co-teaching at the secondary level is challenging and takes longer to be accepted by teachers. They further reported that secondary teachers tend to have more negative attitudes toward the inclusion of students with disabilities in their general education classrooms than do elementary school teachers. The lower number of

secondary school teachers participating in this study may be due to the challenge of co-teaching as that level.

Respondents reported they were involved in co-teaching in an English/reading class 75% of the time. The second most frequently reported subject in which co-teaching occurred was mathematics (32.1%), followed by science (11.9%) and social studies (8.3%). These findings supported the literature. Austin (2001) found that at the secondary level, co-teaching occurs most often in social studies, the sciences, English/language arts, and mathematics classes.

Respondents reported that they co-teach one (42.9%) or two (38.1%) class periods per day. While 6.0% of respondents reported they co-taught three class periods a day and 8.3% of respondents reported they co-taught four or more periods a day. Special educators, especially at the secondary level, were assigned to teach with multiple teachers during a single class period to provide services to the large number of special education students in the general education classrooms (Bauwens, 1989; Murwaski & Dieker, 2004). This resulted in teachers being unable to effectively collaborate with regular classroom teacher because of the number of teachers with whom they are working (Walther-Thomas, 1997). In a follow up interview, one teacher reported a barrier to her co-teaching was being assigned to work with one teacher for an hour and, then, having to teacher with another teacher. The teacher stated that to secure the greatest benefit out of the co-teaching relationship, she would like to teach more consistently with a single teaching partner.

Nearly half of the respondents, (47.6%), reported that 21%-40% of the students in their co-taught classes were students with disabilities. The percent of respondents who

reported that their co-teaching classroom had 51% or more general education student were 66.7%. The literature states that the number of students with disabilities in a co-taught class should range between 20%-35% (Murawski & Hughes, 2009; Pearl et al., 2012). Murawski and Dieker (2004) stated that students with disabilities are often placed in classes that have the maximum number of students in them if co-teaching is not planned in advanced of instruction. This occurs because schedules are created before co-teaching teams are assigned. As a result, students with disabilities are placed in classes that are already full (Murawski & Dieker, 2004). To be effective, co-teaching classrooms need to maintain a range of 20%-35% special education students.

The number of study respondents who volunteered to be involved in co-teaching was 40.5%, while 36.9% of respondents reported being assigned by their administrator to co-teaching. For co-teaching to be effective, Cook and Friend (1995) and Rice and Zigmond (1999) stated it is important that teachers volunteer to become a co-teaching participant. Teachers who volunteer to be involved in co-teaching report more positive perceptions than teachers who are assigned to participate in co-teaching (Mastropieri et al., 2005). In a study completed by Austin (2001), 27% of teachers indicated they had volunteered to co-teach.

Only 15.5% of respondents in this study selected their co-teaching partner. Respondents reported 61.9% that they were assigned their co-teaching partner by their administrator. Keef and Moore (2004) found it important for teachers to choose their co-teaching partner. Rice and Zigmond (1999) reported that personal compatibility between partners is the most critical variable for teachers to achieve co-teaching success. When teachers are getting along and working well together, students with disabilities are more likely

to be successful and have successful experiences in the inclusive environment (Mastropieri et al., 2005). Administrators having generally assigned co-teaching partners impacted the respondents' co-teaching experiences.

Respondents who reported no common planning time was provided by their administrators amounted to 32.1% of the sample, while 29.8% reported that they did not have common planning time, but schedule time on their own to plan with their partners. Those respondents who reported having between 31-60 minutes per week of common planning time with their partner totaled 14% while 8.3% stated they had more than 1 hour each week of common planning time. Common planning time permits special education teachers to provide input to the regular education teacher's instruction and assist in planning for differentiation, accommodations, and positive behavior support (Muraski & Lochner, 2011). Experienced and successful co-teaching teams reported an hour or more of co-planning time each week (Walther-Thomas, 1997). Quality co-teaching is dependent on common planning time, which can lead to more consistent and thoughtful implementation of co-teaching (Cook & Friend, 2010; Simmons & Magiera, 2007). Rice and Zigmond (1999) reported that when teachers have scheduled planning time, co-teachers appeared more satisfied. When common planning time was not available, the special education teacher was less effective in his/her role. Murray (2004) conducted a multi-year study with 30 general education teachers in three urban high schools. When teachers were asked for issues to include in a "dream list" for co-teaching, they noted as critical common planning time on at least a weekly basis. Kohler-Evans (2006) surveyed teachers in 15 school districts regarding their co-teaching experiences. The issue those teachers most frequently identified as affecting their relationships with their co-teaching

partners was common planning time. Four of the six teachers interviewed identified lack of common planning time as a barrier to implementing co-teaching.

Research Question Two

What co-teaching teaching methods do general and special education teachers identify as present in their school district? Research question two focused on teaching methods of co-teaching. These include: both teachers viewed as a teacher for the classroom; teachers having shared responsibilities; teaching roles and responsibilities were defined; and a use of varied teaching methods. Data pertaining to this research question were gathered using questions from the special education and general education teacher survey and follow up interviews with teachers.

Friend et al. (2010), identified six co-teaching approaches: one teach, one observe; station teaching; parallel teaching; alternative teaching; teaming; and one teach, one assist. The respondents indicated that the most common teaching style they use while co-teaching was the one teach, one assist style, with 48.8% of the respondents reporting they used this style four or more times a week. Parallel teaching was reported to be used least often, with 39.3% of respondents reporting never having used this method and 41.7% reporting having used this method one time a week. The respondents reported using alternative teaching one time a week totaling 34.5%, while 23.8% reported having never used this style. These findings support the literature on co-teaching approaches. In a review of 32 qualitative studies on co-teaching, the 'one teach, one assist' was the most prominent model of co-teaching by a considerable margin (Scruggs et al., 2007). Davis et al. (2012) also found that one-lead, one assist model was predominantly used in co-taught middle school classrooms. The researchers

found that 46% of the time teachers used this style. The second most commonly used structured methodology was team teaching. Idol (2006) found that co-teachers often revert to using the one-teach/one assist model when the lesson was not thoroughly co-planned prior to instruction. Embry (2010) reported that when teachers used more co-teaching strategies that required the special education teacher to be more actively involved in instruction, student engagement increased. Student engagement increased up to 20% for students with disabilities when teachers used co-teaching strategies other than one teach/one assist.

The respondents reported, fairly consistently, that either the general education teacher (47.6%) or both teachers (46.4%) were responsible for planning the lesson. Similar results were reported for who was responsible for teaching the lesson (38.1% and 56.0%) and evaluating student learning (33.3% and 59.5%), with either the general education teacher or both teachers being responsible. Effective co-teachers work together as equal partners and have an interactive relationship. They both participate directly in planning, teaching, and evaluating student performance (Murawski, 2008; Takala & Uusitalo-Malmivaara, 2012; Walther-Thomas et al., 1996). Brown et al. (2013) found that when delivering instruction, it is important that both educators teach the focal point of the lesson so they are viewed as integral to the classroom environment and not just an assistant. If both teachers are involved in teaching the lesson, it is important that they have common planning time to prepare for lesson preparation

Respondents in this study reported that both teachers handled discipline issues in the co-taught classroom 79.8% of the time. In a review of 32 qualitative studies on co-teaching, the special education teacher assumed the responsibility for any problem behaviors that

occurred in the classroom (Scruggs et al., 2007). In their study of teachers in a large suburban high school in the southwestern part of the United States, Keefe and Moore (2004) found that most classrooms consisted of the general education teacher taking responsibility for the curriculum, planning, and large group instruction while the special education teacher helped individual students, handled behaviors, and made modifications.

Respondents stated they agreed or strongly agreed 84.5% that they understood their role in the co-teaching partnership. Poorly defined role descriptions can cause co-teaching relationships to fail (Walther-Thomas, 1997). In a survey of ten general education teachers and six special education teachers who co-taught together in a southeastern Missouri high school, the researchers found that the majority of teachers indicated they were unclear about their role was in the co-teaching classroom (Buerck, 2010).

Respondents reported 61.9% of the time that the general education teacher's name was on the board/door, and 76.2% of the general education teachers had a desk in the classroom. Magiera et al. (2005) stated that both teachers' names should appear on the board, on handouts, on notes to families, and on exams, and there should be two teacher desks in the classroom.

Research Question Three

What benefits and barriers do general and special education teachers identify about co-teaching for students and teachers? Research question three focused on the impact of co-teaching on students with and without disabilities, administrative support, and teacher self-reflection of their co-teaching experience. Data pertaining to this research question were

gathered using questions from the special education and general education teacher survey and follow up interviews with teachers.

Respondents agreed that co-teaching has a positive impact on students. The percent of respondents who reported that they agreed or strongly agreed that student with disabilities have improved their academic skills as a result of co-teaching was 78%, while 69.1% of respondents agreed or strongly agreed that students without disabilities have improved their academic skills as a result of co-teaching. Similarly, 71.4% of respondents agreed or strongly agreed that students with disabilities have improved social skills as a result of co-teaching, while 62.0% of respondents agreed or strongly agreed that students without disabilities improved their social skills. Respondents agreed or strongly agreed that students with and without disabilities improved their self-esteem and received more help in the co-taught class than in the non-co-taught class. Numerous researchers stated that co-teaching increases the learning outcomes for students in the general education classroom while ensuring students with disabilities receive necessary instructional modifications and are provided instruction from a content experts (Buerck, 2010; Friend & Reising, 1993; Murwaski & Dieker, 2004). In a 1-year study on the development of co-teaching in four Finnish schools in Helsinki, students receive more attention, help and guidance more quickly, and the students received a higher quality of teaching (Takala & Uusitalo-Malmivaara, 2012).

Respondents either agreed or strongly agreed on 85.8% of occasions that co-teaching was a worthwhile professional experience. Austin (2001) found that both general and special education teachers felt that co-teaching was a worthwhile experience that contributed to the improvement of their teaching and these teachers benefited from working with each other.

Among respondents, 65.5% agreed or strongly agreed that they had support in co-teaching from their administrator. These findings are not consistent with the literature. Several researchers found that a lack of administrator support was a frustrating point for teachers involved in co-teaching (Bessette, 2007; Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012; Walter-Thomas, 1997). Strong and effective leadership is critical to the success of co-teaching as a service delivery model for students with disabilities (Cook & Friend, 1995). According to researchers, administrators need to provide resources, foster relationships among the teachers that encourage abilities, be flexible with schedule, and communicate expectations to all stakeholders in the school to make co-teaching work effectively (Kamens et al., 2013).

Respondents reported that they had either no common planning time provided (32.1%) or that they did not have common planning time, but found time on their own to plan (29.8%). Among respondents 23.8% reported they had between 1 minute and 1 hour of common planning time provided. A common concern about co-teaching is finding common planning time (Bessette, 2007; Buerck, 2010; Pearl et al., 2012; Scruggs et al., 2007; Takala & Uusitalo-Malmivaaro, 2012; Walther-Thomas, 1997). Kohler-Evans (2006) surveyed teachers in 15 school districts regarding their co-teaching experiences. The issue teachers most frequently named as affecting their relationship with their co-teaching partner was common planning time. When teachers collaborate, they share experiences and knowledge that can promote learning for instructional improvement and increase student achievement (Goddard et al., 2007).

According to 66.6% of study respondents, the districts provided sufficient professional development opportunities related to co-teaching. Four of the six respondents interviewed reported that their districts provided training on co-teaching strategies, mostly in the summer. Two respondents reported that they receive monthly sessions with a consultant who observed them and offered ideas for their co-teaching classroom. Research verified that effective professional development that is facilitated by school level staff, such as through professional learning communities, was key to the positive effects of co-teaching (Walsh, 2012). A lack of training and professional development has been identified as a barrier of co-teaching (Weiss & Lloyd, 2002). Professional development activities should further instruction related to effective co-planning; co-teaching variation; student scheduling; instructional considerations; ongoing performance assessment; and interpersonal communication. Activities should be designed to provide appropriate co-teaching models, supervised practice, and time for partners to discuss their concerns, solve problems, and formulate initial implementation plans (Walther-Thomas et al., 1996)

Co-teaching is not a method in which one teacher teaches one subject followed by another teacher who teaches a different subject. It is also not one person teaching while the other photocopies worksheets, grades papers, or watches (Villa et al., 2004). Co-teaching is designed to facilitate the integration of students with disabilities into the general education classroom while meeting the needs of all students through additional support (Villa et al., 2004). In their review of 32 qualitative studies on co-teaching, the authors found that the general education teachers typically led the instruction with little individualization and the special education teacher acted as an assistant (Scruggs et al., 2007). In a study of 46

co-teachers, 89% of the teachers said the general education teacher taught the lesson while the special education teacher helped students (Strogilos & Tragoulia, 2013). The research from this study found that both teachers were responsible for planning the lesson (46.4% of the time), teaching the lesson (56% of the time), and evaluating student learning (59.5% of the time). This is often seen as a barrier of co-teaching. Keefe and Moore (2004) found that teachers involved in co-teaching expressed the importance of and need for establishing appropriate roles and clarifying responsibilities. When roles and responsibilities are not clearly defined, then the general education teachers tend to dominate the co-teaching relationship. It is often a challenge to initially co-teach because education is often seen as an individual job. Teachers are given few opportunities to discuss, plan, and participate in ongoing projects with other adults on a daily basis (Walther-Thomas et al., 1996).

Finally, according to respondents in the study, 78.6% stated they agreed or strongly agreed they would co-teach again. In a survey of secondary teachers in Seattle, Washington, 97% of the teachers said they would participate in co-teaching again if given the opportunity (Kohler-Evans, 2006).

Limitations

Limitations of a study are factors that are beyond the control of the researcher (Simon, 2011). The limitations within this study included:

1. Three school districts were selected for the study. Because of the small sample size, generalizability of the study to other districts may be limited.

2. Both the study survey and interviews were voluntary for participants. Their willingness to respond is a limitation of the results. Several participants started the survey but chose not to complete the whole thing or skipped questions.
3. One of the districts participating in the study had a co-teaching cohort. The responses from that school districts respondents may be different from other study respondents.

Recommendations for Future Practice

The following recommendations are presented based on the study findings and conclusions. These recommendations may be considered for the field for school administrators:

1. Administrators should be encouraged to provide co-teachers with professional development activities that offer instruction related to effective co-planning; co-teaching variation and models; student scheduling; instructional considerations; ongoing performance assessment; and interpersonal communication. Co-teachers need time professional development together to make them an effective team.
2. Administrators should be encouraged to provide co-teachers with common planning time so they can jointly plan their lessons and plan for student differentiation and accommodations.
3. Administrators should be encouraged to permit co-teachers to select their co-teaching partners. Teachers who co-teach need to have opportunity to develop personal compatibility with their partner teacher.

4. Administrators should be encouraged to limit the number of special education students in co-taught classrooms. The number of students with disabilities in a co-taught class should range from 20%-35%.

Recommendations for Further Research

Several areas for further research are supported by the findings of this study. The following are research topics that may be pursued.

1. Further research may be conducted through a replication of this study by conducting research in other states or across the United States for comparative analysis of the results.
2. Further research may be conducted to determine the reasons for elementary teachers reported stronger overall agreement with the impact of co-teaching on general education students than middle school teachers.
3. Further research may be considered to determine the effects of co-teaching on students' academic and social skills' progress.
4. Further research may be conducted to determine students and parents opinions of co-teaching.

Summary

Federal mandates require that school districts examine teaching methods to provide free and appropriate education to students with disabilities (Essex, 2008, p. 132). Co-teaching involves the partnership of a general education teacher and a special education teacher or another specialist—working cooperatively in the general education classroom—to provide

instruction to and modifications for students with disabilities in the least restrictive environment with highly qualified teachers (Solis et al., 2012).

When considering co-teaching characteristics, several conditions need to be met in order for co-teaching to be successful. Research question one examined co-teaching characteristics were present in the respondents' school districts. This research question focused on the grade levels taught, subjects taught, numbers of co-taught class periods and the numbers of special education and general education students in co-taught classrooms. It also gathered data on common planning time, district support, and the teacher relationships as reported by those involved in co-teaching. Research question two focused on co-teaching methods. These methods included: both teachers being viewed as the teacher in the classroom; teachers had shared responsibilities, defined roles and responsibilities; and the use of a variety of teaching methods. Research question three focused on the impact of co-teaching on students with and without disabilities, administrative support, and teacher self-reflection of his/her co-teaching experience. Data pertaining to the research questions were gathered using questions from the special education and general education teacher survey and follow up interviews with teachers.

The results of this study provide recommendations for further practice and research that may benefit the field of educational leadership.

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Appendix A: Email to Special Education Directions

Dear MN Directors of Special Education -

My name is Jennie Stumpf and I am a doctoral student at St. Cloud State University.

For my dissertation, I am researching co-teaching practices in Minnesota. I am going to survey co-teachers by using the Colorado Assessment of Co-Teaching (CO-ACT). This tool has teachers rate the importance and presence of factors in their co-teaching assignment that are proven to be key components of successful co-teaching. This assessment helps to create better co-teaching practices.

Because there is no database saying who is co-teaching, I am looking for assistance from you to locate teachers that are co-teaching **Please respond to my 2 question survey about the districts and/or schools that you work with that have general and special education teachers co-teaching in the general education classroom.** For this study, I am considering co-teaching the teaching of a general education teacher and a special education teacher or other specialist (SLP, OT, PT, etc.) in the general education classroom teaching both students with and without disabilities. With this information, I will then connect with school principals for the names of teachers to complete the survey. The link to the survey is:

<http://goo.gl/forms/6crfySf9cg>

I appreciate your assistance in helping me with my research. If you have any questions please don't hesitate to contact me. I look forward to sharing my research results with you on the co-teaching practices of Minnesota teachers.

Jennie Stumpf

raje0002@stcloudstate.edu

Appendix B: Co-teaching Survey

Co-teaching Practice in Minnesota
Co-Teaching Practices in Minnesota
<p>Informed Consent</p> <p>You are invited to participate in a research study on co-teaching practices in Minnesota. You were selected as a possible participant because you are currently or have co-taught and you teach in Minnesota.</p> <p>This research project is being conducted by Jennie Stumpf to satisfy the requirements of a Doctoral Degree in Educational Administration and Leadership at St. Cloud State University.</p> <p>Background Information</p> <p>Federal mandates have required that districts teach students with disabilities in the least restrictive environment and with their peers to the greatest extent possible. To fulfill these mandates, districts started implementing different inclusion models. One of those models, co-teaching, has become popular across Minnesota school districts.</p> <p>Purpose</p> <p>The purpose of this study is to examine co-teaching practices in Minnesota and how this compares to the research.</p> <p>Study Procedures</p> <p>Participants will be asked to complete a short survey detailing their co-teaching experience. After completing the survey, respondents may be asked to participate in an interview to answer follow-up questions from the survey.</p> <p>Risks</p> <p>There are no foreseeable risks associated with participation in this study.</p> <p>Benefits</p> <p>The results of this survey will be published to better plan and sustain successful co-teaching partnerships. The districts that participate in the study will be able to use the research for future professional development training.</p> <p>Confidentiality</p> <p>The confidentiality of the information gathered during your participation in this study will be maintained. Your personal identity will remain confidential. You will not be identified by your name in any published materials. Your specific school district will not be identified in the study. All printed data will be kept in a locked file cabinet in a locked room and/or on a computer secured with a password. This data will be destroyed within three years. All interviews will be recorded to allow the researcher to review responses for data collection purposes. The recorded interviews will be deleted within one year of the study being completed. While the study is confidential, participants may be identified by their comments in the study results if direct quotes are used. Participants should be sure to not say anything they would not want included in the final report. No names will be used for direct quotes.</p>

Co-teaching Practice in Minnesota

Research Results

Upon completion, the researcher's dissertation will be electronically available for you to review the results. You may also contact the researcher for the final report.

Contact Information

If you have any additional questions please contact the researcher, Jennie Stumpf, at raje0002@stcloudstate.edu or the advisor, Dr. John Eiler, at jfeiler@stcloudstate.edu.

Voluntary Participation/Withdrawal

Your participation in this study is voluntary. You may decide not to participate or to withdraw your consent to participate in this study at any time, for any reason, without penalty. Your decision whether or not to participate will not affect your current or future relations with St. Cloud State University or the researcher. Please remember this information is confidential and is designed to help create successful co-teaching partnerships. If you decide to participate, you are free to withdraw at any time without penalty.

Acceptance to Participate in the co-teaching study

Your completion of this survey indicates that you are at least 18 years of age, you have read the information provided above, and you have given consent to participate. If you participate in the interview portion of the researcher, you give consent for your interview to be recorded and for direct quotes from your interview to be used. You may withdraw from the study at any time without penalty after signing this form.

1. I have read and agree with the above statements.

- Yes, I would like to proceed with completing the survey.
- No, I would not like to proceed with completing the survey.

Co-teaching Practice in Minnesota

MN Co-Teaching Case Study

For this study, co-teaching is when a general education teacher and a special education teacher or another specialist, collaborate for the purpose of delivering instruction together to students, including students with disabilities, in the general education setting (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010).

Directions: Please select the response that best describes you. This survey will take less than 10 minutes to complete.

2. Select the response that best describes your primary teaching role while co-teaching:

- General Education Teacher Special Education Teacher

3. Grade level taught:

- Elementary (PreK - 5th grade) High School (9th - 12th grade)
 Middle School (6th - 8th grade)

4. Years of teaching (including this school year):

5. Subject(s) in which you co-teach with another teacher (mark all that apply):

- Science Math
 Social Studies English/Reading
 Other (please specify)

6. Total number of years you have co-taught (including this school year):

Co-teaching Practice in Minnesota

7. Length of time (in years) you have co-taught with your current co-teaching partner (including this school year):

8. Number of co-taught class periods you currently teach?

- | | |
|----------------------------|------------------------------------|
| <input type="radio"/> Zero | <input type="radio"/> Three |
| <input type="radio"/> One | <input type="radio"/> Four or more |
| <input type="radio"/> Two | |

9. What is the percent of special education students (any student with an IEP) in your co-taught class? (If you teach more than one co-taught class period, choose one class for this response.)

- | | |
|--------------------------------|-------------------------------------|
| <input type="radio"/> 0 - 10% | <input type="radio"/> 31 - 40% |
| <input type="radio"/> 11 - 20% | <input type="radio"/> 41 - 50% |
| <input type="radio"/> 21 - 30% | <input type="radio"/> More than 51% |

10. What is the percent of general education students in the co-taught class? (If you teach more than one co-taught class period, choose one class for this response.)

- | | |
|--------------------------------|-------------------------------------|
| <input type="radio"/> 0 - 10% | <input type="radio"/> 31 - 40% |
| <input type="radio"/> 11 - 20% | <input type="radio"/> 41 - 50% |
| <input type="radio"/> 21 - 30% | <input type="radio"/> More than 51% |

Co-teaching Practice in Minnesota

11. How did you get involved in co-teaching?

- Volunteered Administrator assigned
- Administrator recommended involvement
- Other (please specify)

12. Please select the response that best describes how you were paired with your co-teaching partner.

- I was assigned by my administrator. I had a large amount of shared students with my co-teaching partner.
- I selected my co-teaching partner.
- Other (please specify)

13. Please select the response that best describes the amount of scheduled common planning/prep time you have been provided to work with your co-teaching partner:

- No common planning time has been provided. More than one hour per week has been provided.
- 1 - 30 minutes per week has been provided. My co-teacher and I don't have common planning time, but find time to co-plan on our own (such as before or after school, during lunch, etc.)
- 31 - 60 minutes per week has been provided.

Co-teaching Practice in Minnesota

14. Please select how often you use each of the co-teaching styles. (The text following is a definition of each co-teaching style.)

	Four or More Times a Week	Two to Three Times a Week	One Time a Week	Never
One teach, one drift: one teacher has more responsibility leading the class and the other supports the students by walking around the room.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alternative teaching: one teacher leads a large group while another leads a small group by providing remediation or teaching the concepts in a different way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Parallel teaching: class is divided into two groups and each teacher presents the same material to their individual group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Team teaching: both teachers plan and teach the same lesson to the large group.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-teaching Practice in Minnesota

15. Please select the person primarily responsible for each of the following duties related to instruction in the co-teaching relationship.

	General Education Teacher	Special Education Teacher	Both Teachers	Neither Teacher
Is responsible for planning the lesson.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is responsible for teaching the lesson.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Is responsible for evaluating student learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Handles discipline issues in the co-taught classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determines what modifications/accommodations will be made to the lesson.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Determines what grouping/teaching style will be used.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hes a desk/area in the classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Name is on the board/eyelabue/door.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-teaching Practice in Minnesota

16. Please select the best answer for each item based on your observations of students with disabilities in the co-taught classroom.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Students with disabilities have improved their academic skills as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students with disabilities have improved their social skills as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students with disabilities have improved their self-esteem as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students with disabilities receive more help because of the co-teaching than they might in a non co-taught classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Please select the best answer for each item based on your observations of students without disabilities in the co-taught classroom.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Students without disabilities have improved their academic skills as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students without disabilities have improved their social skills as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students without disabilities have improved their self-esteem as a result of co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Students without disabilities receive more help because of the co-teaching than they might in a non co-taught classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-teaching Practice in Minnesota

18. Select the answer that most accurately describes your co-teaching relationship:

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My co-teacher and I are equal participants in the teaching process.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I have open and honest communication.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I share behavior management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I have a positive working relationship.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I are open and willing to try new ideas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teaching partner and I work well together in planning and delivering instruction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I consistently work with all students, including students with disabilities and those without disabilities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My co-teacher and I are provided with enough time to effectively implement co-teaching strategies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Co-teaching Practice in Minnesota

19. Please select the best answer for each item.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My administrator creates a school culture in which co-teaching is valued.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The district provides sufficient professional development opportunities related to co-teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have support in co-teaching from my administration.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. Please select the best answer for each question

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I felt prepared to co-teach.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-teaching is a worthwhile professional experience.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand my role in the co-teaching partnership.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-teaching has led to an overall improvement of my teaching.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Co-teaching has allowed me to explore a wider range of instructional activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like an active member of the co-teaching classroom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would co-teach again if given the opportunity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. A second part of this research project includes interviews with people who are co-teaching. Please indicate if you are interested in participating in the interview. The interview will take less than 15 minutes. It is optional to participate in the interview and you will remain anonymous for participating. You will be directed to a different survey if you choose to participate in the interview so your answers from this survey remain anonymous.

- Yes, I would be interested in participating in the interview portion of the research project.
- No, I am not interested in participating in the interview portion of the research project.

Co-teaching Practice in Minnesota

In order to keep the responses anonymous, please proceed to the following link to enter contact information: [click here](#)

Appendix C: Interview Questions

MN Co-Teaching Case Study Interview Questions

1. How did you initially prepare for your co-teaching assignment?
2. Please describe how your administrator has been involved in the co-teaching process.
3. In terms of your experience, what are the two most significant benefits of co-teaching for the teachers?
4. In terms of your experience, what are the two most significant benefits of co-teaching for students?
5. In terms of your experience, what are the two most significant barriers you have faced in implementing co-teaching?
6. Do you have anything to add that I did not ask during this interview?

Appendix D: Email Asking Participants to Complete Survey

Dear Co-Teachers

My name is Jennie Stumpf and I am a doctoral student in the Educational Administration and Leadership program at St. Cloud State University. I am doing research on co-teaching practices in Minnesota. District *** has offered to help me in my research in order to get a better picture of what co-teaching looks like in the district. The results of my research will be published and shared with District *** to help with continued professional development planning.

My research contains two phases. Phase one is an electronic survey through Survey Monkey. Your participation is voluntary, but I encourage you to participate to help determine what aspects are present in District ***'s co-teaching practices. You will not be identified by your name in any published materials. Your specific school district will not be identified in the study. The survey will take less than 10 minutes to complete. The second phase is a short interview (less than 15 minutes) answering six additional follow-up questions. If you are interested in participating in the interview, please respond yes on the last question of the survey.

Thank you for taking time to participate in my research. Your responses will help shape the way co-teaching is done in Minnesota.

The link to the survey is: <https://www.surveymonkey.com/s/LD9JTFG> Please complete the survey by May 1, 2015.

Jennie Stumpf
Doctoral Student
raje0002@stcloudstate.edu

Appendix E: Email Asking Participants to Complete Interview

Hi ***

Thank you for taking the time to completing my survey on Co-Teaching. At the end of the survey, you indicated that you were willing to participate in a follow up interview. Your name was randomly chosen to complete the interview.

I would like to schedule the interview in the next few weeks. It will be completed on the phone and should take about 10 minutes to complete. The interview will be recorded so that I can accurately depict your responses.

The interview can happen before or after school, during your prep or lunch, or even after school hours. I have attached the questions for you to preview prior to the interview.

Thanks again for your assistance in my doctoral research. I look forward to hearing from you soon to set up your interview.

Jennie Stumpf
St. Cloud State University
Doctoral Student