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**AN EXPLORATORY CASE STUDY ON THE PERCEIVED EFFECTIVENESS
OF CO-TEACHING AND A NEED FOR PROFESSIONAL DEVELOPMENT**

by

Jacquelyn M. Joas-Foy

A Dissertation

Submitted to the
Department of Educational Services and Leadership
College of Education

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Doctor of Education

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December 1, 2019

Dissertation Chair: Carol C. Thompson, Ph.D.

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Abstract

Jacquelyn M. Joas-Foy
AN EXPLORATORY CASE STUDY ON THE PERCEIVED EFFECTIVENESS OF
CO-TEACHING AND A NEED FOR PROFESSIONAL DEVELOPMENT
2019-2020
Carol C. Thompson, Ph.D.
Doctor of Education

Co-teaching is an instructional method used to educate many special education and at-risk youth. This study explored the perceived knowledge of and effectiveness with co-teaching through the perceptions of co-teachers and administrators at a large suburban high school. This study also explored the perceived effectiveness of co-teachers in Gately & Gately's eight components of effective co-teaching (2001). Four dyads completed the Co-teaching Rating Scale and a questionnaire. They also engaged in classroom observations and a focus group. Data from these data sources along with a focus group that included administrators from the high school generated a picture of co-teaching and of the co-teacher perceptions of their effectiveness. This study explored the perceptions of co-teaching through co-teachers and administrators and challenges co-teachers perceive as barriers to their effectiveness. This case study resulted in recommendations to improve co-teaching practices.

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Chapter 1

Introduction

Over half of the elementary and secondary special education student population receives instruction in inclusion classrooms (US DOE, 2015). Inclusion classrooms are taught by two teachers, one special education teacher and one general education teacher (Austin, 2001; Cook & Friend, 2010). Students with and without disabilities benefit from this educational setting both academically and socially provided the two teachers share in planning, implementation, and assessment of instruction (Manset & Semmel, 1997; Scruggs, Mastropieri & McDuffie, 2007). Unfortunately, not all inclusion classrooms are taught by teachers who engage in effective collaborative practices (Buckley, 2004; Walsh, 2012). This could be a result of insufficient pre-service training in collaborative practices (Ploessel, Rock, Schoenfeld, & Blanks, 2010; Strogilos, Tragoulia, & Kaila, 2015) and instructional strategies general education teachers receive. It could also be a result of limited content knowledge special education teachers receive. Regardless of the pre-service training co-teachers receive, professional development can increase their effectiveness. With inclusion being a common method of instruction for students with disabilities, teachers need professional development to better meet the needs of their students (Austin, 2001; Scruggs, Mastropieri, & McDuffie, 2007). This study investigated a school without sustained professional development for co-teachers. It explored co-teaching and the need for professional development as a means to increase perceived co-teacher effectiveness.

Many schools offer professional development. However, what type of training will help co-teachers? Professional development, related to inclusion, extends from

models of instruction to communication skills to disability training and beyond. It is imperative to know where inclusion teachers fall short on their climb to effectiveness in order to give them meaningful professional development that will enhance their abilities to create positive student outcomes. For this study effectiveness in co-teaching is identified when teachers reach the collaborative developmental stage in each of Gately and Gately's (2001) eight components of effective co-teaching.

This chapter will offer a quick glance of the study. First, the context of the study will be addressed including background information, the purpose, and the rationale behind the study. There will be a summary of relevant literature and a description of the conceptual framework. Next, research methods will be summarized and explained. Lastly, there will be a short description of chapters four and five.

Context

This study took place at a large suburban high school that utilizes inclusion classrooms as an instructional method for many of their students. This setting gives support to special education students while educating them in the general education classroom. At Memorial High School, a pseudonym, approximately 100 special education students and around 250 general education students receive instruction in inclusion classrooms each year. These students are entitled to an educational setting that will help them succeed (Individuals with Disabilities Act [IDEA], 1990). For inclusion teachers to be effective, continued professional development is necessary (Batts, 2014; Cook & Friend, 1995; Hourcade & Bauwens, 2001; Nierengarten, 2013; Scruggs, Mastropieri, & McDuffie, 2007). Memorial HS has offered very limited in-district professional development related to inclusion as an instructional method in the past five

years. Within that time, many new teachers have been hired and are teaching in inclusion classrooms with limited training.

Purpose Statement

The purpose of this case study was to explore the effectiveness of co-teachers through the perceptions of administrators and co-teachers and to investigate the need, if any, for professional development on co-teaching at Memorial HS. Qualitative data in the form of a questionnaire, observations, focus groups, and the Co-teaching Rating Scale (CtRS) were utilized to explore co-teaching. This exploration identified areas in which professional development could assist co-teachers in becoming more effective.

Rationale

This study grew out of a conversation with an administrator at Memorial HS. We spoke about co-teaching and a lack of professional development options for co-teachers at the high school. As a member of the professional development professional learning community (PLC), and a special education teacher, I was elated to take on this task. The teachers, and ultimately the students, of the high school may benefit from this study. With input from teachers and administrators, recommendations of meaningful professional development for inclusion teachers were generated.

Overall, the special education students at Memorial HS perform better than the state average for students with disabilities on standardized tests. However, there is an achievement gap between special education students and general education students at Memorial HS. National data also shows an achievement gap with special education students underperforming compared to their general education counterparts (Pasternack, 2014). Considering that many special education students are educated in inclusion

classrooms, co-teaching is an instructional delivery method that plays an important role in closing the achievement gap. Research on this academic setting is essential to student and co-teacher success.

Relevant Literature

Regardless of the severity of disability, every student has the right to a free and appropriate public education (IDEA, 1990). This was not always the case. Before 1973, students with special needs were not granted access to public education. Using *Brown v Board of Education of Topeka* (1954) as a precedent, the plaintiffs of two different court cases, *Pennsylvania Association for Retarded Citizens (PARC) v the Commonwealth of Pennsylvania* (1972) and *Mills v Board of Education, DC* (1972), fought for equality in education. They shared the belief that separation of special education students from general education students was not giving them an equal education. With the Rehabilitation Act in 1973, students with disabilities became entitled to federally funded programs including public education. Special education students were invited into public schools but were often placed in specialized programs isolating them from the general population.

By the early 1980s students with disabilities were included in public education, and special educators found themselves as consultants to general education teachers (Friend & Reising, 1993), helping them with instructional and intervention strategies. Issues arose as districts began looking to special education teachers as experts who had the responsibility of teaching general education teachers a body of knowledge related to special education. In some cases, special education teachers did not want this perceived

higher level of status (Cook & Friend, 1991a). Another approach was necessary to support students with disabilities in general education classrooms.

Team teaching, originally an instructional technique found in general education, became the inspiration for present-day, co-teaching (Friend & Reising, 1993). The implementation of IDEA and No Child Left Behind (NCLB) mandated that students have access to the general curriculum and receive a free and appropriate public education in a least restrictive environment (IDEA, 1990; NCLB, 2001). It is within the interpretation of IDEA and NCLB that co-teaching as an instructional delivery model for students with disabilities emerged. The least restrictive environment for many students with disabilities is inclusion co-taught classrooms. Inclusion co-taught classrooms have general and special education students and both a general and a special education teacher. “Co-teaching is a vehicle through which legislative expectations can be met while [students with disabilities] at the same time can receive the specifically designed instruction and other supports they are entitled” (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 10). This change in classroom structure allowed the special education teacher and general education teacher to collaborate as equals in all aspects of instruction instead of the special education teacher taking on a consultant role. Co-teachers equally share in co-planning, co-instructing, and co-assessing the students in their class (Cook & Friend, 1995). One of the most important aspects of the co-taught classroom is that two teachers with different expertise collaborate to provide a more individualized educational experience for their students.

Special education is teaching students with disabilities in a manner that addresses their academic and social needs. Special education plays two roles: develop and

strengthen psychological functions and prevent, correct, and rehabilitate poor social interactions (Wang, 2009). Specialized instructional strategies are utilized to help students succeed at a success rate higher than they would have if they were in regular general education classrooms. Teachers make accommodations and modify the general curriculum to meet the needs of students with disabilities. For students with mild disabilities, some accommodations may include a copy of class notes, use of a calculator, or oral answers instead of written. Modifications may include limited written expression, reduction in homework, or fewer concepts assessed at a given time. Modifications and accommodations are used in special education to support students while they learn.

Vygotsky (1930-1934/1978) identified the zone of proximal development as a way to help educators understand child development. The zone of proximal development is the area between which students are independently capable of an activity and where activities are too challenging for students to accomplish even with support (Vygotsky, 1930-1934/1978). Co-teachers support students with disabilities by modifying the curriculum, making accommodations, and teaching them skills to compensate for the challenges of their disability. Some skills include organization strategies, emphasis strategies, and study skills (Conderman & Hedin, 2013). Through collaboration, co-teachers can implement the concept of the zone of proximal development through the use accommodations and modifications which will help students develop skills representative of their “actual developmental level” (John-Steiner & Souberman, 1978, p. 131).

Educating in co-taught classrooms requires collaboration. However, not all co-teachers will form a collaborative partnership quickly. Three developmental stages of co-teaching partnerships have been defined (Gately & Gately, 2001; Weiss, Pellegrino,

Regan, & Mann, 2015). Gately and Gately (2001) defined these stages as beginning, compromising, and collaborative. As teachers move through these stages, they become more effective co-teachers and form competence in eight co-teaching components (Gately & Gately, 2001). For this study, effective co-teaching is identified when teachers reach the collaborative developmental stage in each of Gately and Gately's (2001) eight components of effective co-teaching which leads to positive student outcomes (Hang & Rabren, 2009; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Walther-Thomas, 1997).

Gately and Gately's (2001) identified eight components of effective co-teaching; interpersonal communication, physical arrangement, familiarity with curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment. The first component of effective co-teaching is interpersonal communication. Without this, co-teachers are unable to collaborate and will not have the ability to build a classroom environment that benefits all learners. Special and general education students both benefit from inclusion classrooms. Students get more one-on-one interaction with teachers (Manset & Semmel, 1997) and are more engaged in lessons (Scruggs, Mastropieri & McDuffie, 2007). Co-taught classrooms have a positive impact on students both academically (Manset & Semmel, 1997; Weichel-Murawski & Swanson, 2001) and socially (Scruggs, Mastropieri & McDuffie, 2007). Hence, it is a method of instruction that delivers positive outcomes for all students.

Conceptual Framework

In an effort to positively impact the students, the co-teaching classroom follows a constructivist framework. Co-teachers construct meaning and knowledge through the experiences they share in and out of the classroom. Their knowledge and understanding is amplified by the social interactions they have with their students and fellow co-teachers. It is through collaboration where co-teachers develop techniques necessary to create an environment that offers students the best educational outcomes possible. This study is supported by the theory of constructivism where people construct meaning through their experiences and social interactions.

Constructivism. Constructivism is the belief that people create meaning from experiences and social interactions (Cresswell, 2014). People construct meaning through their experiences with the world around them (Shively, 2015). Dewey, Piaget and Vygotsky share views on constructivism. They all believe that learning is based on a person's experiences. Based on Vygotsky's view of constructivism, "learning involves constructing, creating, inventing and developing one's own knowledge" (Liu & Chen, 2010, p. 65). Within this perspective, constructivism is a theory about how people think and learn (Liu, C. C. & Chen, I. J., 2010). Piaget's perspective claims that knowledge is a response to observations and experiences (Peterson, 2012). A person's theory will evolve as new observations and situations are experienced (Carey, Zaitchik, & Bascandzhev, 2015). Piaget's theory of constructivism encourages learners to engage in situations that generate knowledge (Carey, Zaitchik, & Bascandzhev, 2015; Peterson, 2012). Constructivism has been a major focus for education (Powers, 1997). Power's interpretation of Dewey's definition of constructivism in education states that "education

depend[s] on action...[and] individuals [gain] knowledge from situations in which they [can] find meaning and importance” (1997). It is through constructivism where co-teachers understand how students learn and thus how to create a classroom that fosters the construction of knowledge (Power, 1997).

Constructivism in the classroom is often described as students constructing knowledge and meaning by engaging in the classroom (Driscoll, 2005; Kwan & Wong, 2014; Schreiber & Valle, 2013). The “idea of possibility” is essential in the constructivist classroom (Peterson, 2012). The classroom must be structured in a way that encourages students to engage in thought. In a constructivist classroom the structure moves from telling-listening to social interactions where students are active participants in the learning process (Schreiber & Valle, 2013). Vygotsky believed that a large part of learning came from social interactions and that social interactions enhance learning and the construction of meaning (Hyslop-Margison & Strobel, 2008; Liu & Chen, 2010). In addition, teachers ask leading questions and help students generate solutions (Schreiber & Valle, 2013). The goals of a constructivist classroom are to promote reasoning, critical thinking, understanding and use of knowledge, self-regulation and mindful reflection (Driscoll, 2005). Assumptions of a constructivist classroom are that learners are engaged in classroom activities, self-regulated and that social interactions are key to learning (Kwan & Wong, 2014). The constructivist classroom facilitates learning by assisting students in developing their own cognitive skills through social interactions (Galton, 1998). In inclusion classrooms, it is the role of co-teachers to create an environment that helps student development academically and socially.

Co-teachers construct meaning through collaboration. Collaboration is the process by which two teachers plan instruction, present lessons, and assess student learning together. Communication, hence social interaction, is a large part of collaboration and is one of Gately and Gately's (2001) eight components of effective co-teaching. By focusing on interpersonal communication, physical arrangement, familiarity with curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment (Gately & Gately, 2001) throughout the collaboration process, co-teachers will have the ability to encourage students to engage in a classroom where they feel challenged based on their own specific abilities with the opportunity to grow their own knowledge through experiences and social interactions in the classroom.

This study is working under the framework of constructivism. Through the processes of this study, a clearer understanding of co-teaching and its challenges will be constructed. Knowledge about the perceptions of co-teachers and administrators at Memorial HS will be constructed throughout the collection and analysis of data (Stake, 1995). The next section will describe the methods used to explore co-teacher perceived effectiveness at Memorial HS.

Methods

Research design. This study followed a single case study design. To achieve an in-depth exploration of co-teaching at Memorial HS, this study followed an exploratory single case study design. This design allowed for the exploration of co-teaching within the context of Memorial HS and develop an understanding of the participants' experiences. Multiple sources of data and perceptions were collected for this case study.

Setting. The research took place at a large suburban high school. Memorial HS has approximately 1500 students with about 15% of the population classified under special education. Students with disabilities vary in their classifications with the most common disabilities being specific learning disability, other health impaired, and communication impaired. These disabilities will be explained in more detail in chapter two. There are also a variety of academic placements available for students with disabilities, the most common placement being co-taught inclusion classrooms. Although special education students at the high school are performing higher than the state average, their scores are noticeably lower than the general education population.

Participants. Co-teachers and administrators took part in this research study. The participants were an integral part of the research process. They shared their experiences of co-teaching and their professional opinions on increasing co-teacher effectiveness. It was important to build and maintain relationships with the participants before and during the study to ensure a willingness to respond in an open and honest nature. Without the input of the participants, this study would not have produced data needed to answer the research questions.

Research questions. The research questions were the driving force behind this study and influenced all aspects of it. This study explored the co-teaching experiences of both the special and general education teachers of four co-teaching dyads through three research questions.

1. How do co-teachers at Memorial HS perceive their knowledge of and effectiveness with co-teaching in their current setting?

- a. How effective are these co-teachers in their current setting based on Gately and Gately's (2001) eight components of effective co-teaching?
2. What are the perceptions of administrators at Memorial HS on the effectiveness of co-teaching practices at their school?
3. What challenges do co-teachers at Memorial HS perceive as barriers to their effectiveness as co-teachers?

In answering these questions, an in-depth look at co-teaching at the high school will be created. The perceptions of co-teaching from the point of view of co-teachers and administration will be described. Additionally, challenges co-teachers face will also be discussed. Data collected in this study will answer the research questions.

Data collection. In case studies many data collection techniques are necessary to create a picture of the unit being analyzed. This case study collected data through a questionnaire, observations, focus groups and a rating scale. This study used the Co-teaching Rating Scale (Gately & Gately, 2001) where co-teachers answered an array of questions that reflected on their co-teaching experience. This tool identified strengths and weaknesses in eight components of co-teaching as defined by Gately and Gately (2001). Co-teachers also completed a short questionnaire that identified years of experience and individual perspectives on co-teaching relating to their current co-teaching partnership. To triangulate data from the CtRS and questionnaire, classroom observations were another method of data collection. The Co-teaching Checklist (Murawski & Lochner, 2011) looks for and listens for items that identify effective co-teachers. Using this observation checklist, strengths and weaknesses of each co-teaching dyad were identified and corroborated the data from the CtRS and questionnaire. To

round out the picture of co-teaching at Memorial HS, focus groups were conducted. A focus group with the co-teachers offered an insider perspective on co-teaching and a separate focus group with administrators offered an outsider perspective. In both focus groups the participants were able to discuss perceptions of co-teaching, co-teaching supports, and professional development. The CtRS, Co-teaching Checklist, questionnaire, and focus groups were selected as data collection methods because they offered data that best answered the research questions.

Findings and Discussion

Chapter four will discuss the findings of the study. It will begin with a summary of the participants. Next, the analysis of each data source will be discussed. Then a narrative of interesting findings pertaining to each team will be addressed. Finally, the research questions will be answered. Chapter five is the discussion chapter. This chapter will the research questions as they relate to current research. This chapter will also discussion limitations to this study. The chapter will conclude with implications and recommendations to improve the effectiveness of co-teaching at Memorial HS.

Summary

Chapter one has offered a brief overview of the research study. This chapter discussed the context, relevant literature, conceptual framework and methods on which this study is based. It also gave a brief summary of the findings and recommendations for Memorial HS. In the next two chapters literature and research methods will be discussed in greater detail. In chapter two there will be a deeper review of the literature relevant to this study. The literature will describe the students affected by co-teaching, components of effective co-teaching, and benefits of co-teaching. Chapter three will

outline the methods used in this study. It is here that the setting, participants, research design and data collection methods will be discussed.

The final two chapters will state data gathered during the study and recommendations for Memorial HS. Chapter four will outline data from each data collection method. It will also answer the research questions. Chapter five, will describe issues that challenge the perceived effectiveness of co-teachers at Memorial HS. It will also offer recommendations for co-teachers and administrators at Memorial HS relating to co-teaching. Recommendations for future research will also be discussed. This study sought to explore and understand the experiences of co-teachers, their effectiveness, and areas where professional development will increase their effectiveness as co-teachers. Through the analysis of data this study generated recommendations for meaningful professional development for co-teachers at Memorial HS.

Chapter 2

Literature Review

Co-teaching is an instructional delivery method that is used throughout the country to meet the needs of students with disabilities. The popularity of co-teaching can be seen through the results of a nationwide survey (Muller, Friend & Hurley-Chamberlain, 2009). This survey was distributed to every state education agency in the United States. The results of the survey showed that state education agencies have an understanding of co-teaching and its implementation as a means to support students with disabilities (Muller, Friend & Hurley-Chamberlain, 2009). Placement of students with disabilities can be identified by the amount of time they spend in the general education setting. According to national data, 62% of students with disabilities spend 80% or more of their day in general education (Centers for Disease Control and Prevention [CDC], 2018). It can be inferred that more than half of all students classified under special education receive support in co-taught inclusion classrooms.

Many co-teachers lack training on collaborative practices (Ploessel, Rock, Schoenfeld, & Blanks, 2010; Strogilos, Tragoulia, & Kaila, 2015). Pre-service teacher training differs depending on the certification the teacher desires. Training for general education teachers, especially at the secondary level, focuses on content and concepts in their content area (Murawski & Dieker, 2004). On the other hand, special education teachers become masters of disabilities, instructional strategies and interventions (Scruggs & Mastropieri, 2017). For effective co-teaching, these two different knowledge bases must come together through collaboration and offer an education that meets the needs of all learners within the general curriculum.

In this chapter, I will first look at laws and policies that began with and contribute to inclusive education, where students with disabilities are educated in the general education classroom. Then, I will define co-teaching as it pertains to inclusion classrooms and address the developmental stages of co-teaching partnerships. Next, I will discuss eight components of effective co-teaching as defined by Gately and Gately (2001) and tools to measure the effectiveness of co-teachers (Gately & Gately, 2001). I will briefly talk about teacher training regarding the inclusion of students with disabilities and the benefits co-teaching has on students and teachers. Finally, I will discuss previous research on co-teaching and how it relates to co-teaching.

Laws and Policy

Team teaching gained popularity in the early 1960s as a new way to organize secondary schools (Trump, 1966) and was widely used in the early 1970s. During this time period, team teaching referred to a classroom where the teacher to student ratio was 1:25 and both teachers had similar expertise as well as classroom priorities in the areas of curriculum and classroom management (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). The rationale for team teaching was that students would receive diversified and individualized instruction with teachers that would blend their expertise to increase student learning (Friend & Riesling, 1993).

The Education of All Handicapped Children Act of 1975 highlighted the need for a working relationship between general education teachers and special education teachers and laid the foundation for the inclusion of special education students (Cook & Friend, 2010). In the 1980s, team teaching became a method of instruction for mainstreamed

special education students (Friend & Riesling, 1993) and was termed “collaborative teaching” (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 15).

IDEA mandated that students be taught in the least restrictive environment (IDEA, 1990). NCLB (2001) required all students, including those with disabilities, be granted access to the general curriculum and be taught by highly qualified teachers (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, NCLB, 2001). Least restrictive environment refers to the education setting closest to that of general education that offers students the most success (Douvanis & Hulsey, 2002). The least restrictive environment for many special education students is a co-taught inclusion classroom.

Definition of Co-Teaching

Collaborative teaching, commonly referred to as co-teaching, is a method of instruction that meets legislative requirements and offers students with disabilities the support they need to be successful (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010) in general education classrooms. Co-teaching, as defined for the purpose of this study, exists where general and special education students are educated in the same classroom (Austin, 2001; Cook & Friend, 2010) by two teachers, one special education and one general education. Co-teaching refers to a general education teacher and a special education teacher sharing “heterogeneous groups of students in the general education classroom” (Hourcade & Bauwens, 2001, p. 243) with a teacher to student ratio of approximately 2:25 (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Each teacher has different expertise which provides “depth and richness” to lessons that promote the success of all students (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010, p. 15). Co-teachers share the responsibility of providing instruction, developing

curriculum, guiding practice, monitoring progress, communicating with families, and evaluating students (Walther-Thomas, Bryant, & Land, 1996). At the secondary level, team teaching, by way of its original definition, is rarely seen. However, co-teaching, by the definition previously stated, occurs in many classrooms for math, language arts, science and history.

Students in Inclusion Classrooms

Ninety percent of all students with disabilities spend at least part of their day in the general education setting. Sixty-two percent of students with disabilities spend 80% or more of their day in general education (CDC, 2018). Most of these students are educated in a co-taught classroom. The most common student classifications found in co-taught classrooms are specific learning disability (SLD), other health impaired (OHI), and speech or language impaired (U.S. Department of Education, 2016).

Deficiencies in the ability to understand or use language may result in a classification of SLD. Students classified as SLD may suffer from brain injury, dyslexia, or developmental aphasia. These students have a severe discrepancy between their abilities and grade level in basic reading skills, reading comprehension, oral expression, listening comprehension, mathematical calculation, mathematical problem solving, written expression, and reading fluency (NJAC 6A:14). Thirty-five percent of all students with disabilities are classified as SLD (U.S. Department of Education, 2017).

Approximately 6.4 million children nationwide are diagnosed with attention deficit disorder/attention deficit hyperactivity disorder (Centers for Disease Control and Prevention, 2018). Even more students may have conditions such as Tourette Syndrome, leukemia, heart conditions or other chronic or acute health issues. Students with any of

the above conditions or illnesses are classified if it has adverse effects on their educational performance such as limited strength or issues with alertness. Provided there is medical documentation regarding the illness, these students are classified as OHI and are considered “chronically ill” (NJAC 6A:14). Thirteen percent of all students with disabilities are classified as OHI (U.S. Department of Education, 2017).

Speech or language impaired includes two areas of impairment. For a student to fall into this classification, they may be communication impaired or auditorily impaired. Communication impaired means that the student has an inability to perform at their grade level in morphology, syntax, semantics or pragmatics. Auditorily impaired means that the student has an inability to hear within normal limits due to a physical impairment or dysfunction of auditory mechanisms. The student may have deafness, impairment in linguistic processing through hearing or a hearing impairment where amplification of sound may assist the student in the classroom (NJAC. 6A:14). Twenty percent of all students with disabilities are classified with a speech or language impairment (U.S. Department of Education, 2017).

A student’s impairments or disabilities play a role in his or her educational performance. Parent expectations can also play a role in educational performance of students with disabilities. Parent expectations have been linked to academic achievement and student engagement (Banerjee, Sundeen, Hutchinson & Jackson, 2017; Hirano & Rowe, 2016). The more a parent communicates their expectations, the better students perform (Banerjee, Sundeen, Hutchinson & Jackson, 2017). Interestingly parent expectations are contingent on their perception of how well their child is performing in school (Hirano & Rowe, 2016). Although parents are generally satisfied with the co-

taught classroom (Strogilos, & Tragoulia, 2013), they often express concern for the lack of accommodations and modifications implemented in the classroom (Strogilos, Tragoulia & Kaila (2015). This leads some parents to become an advocate for their child and increase the collaboration between themselves and the special education teacher (Strogilos, & Tragoulia, 2013). Despite efforts from IDEA, which require parental involvement in all aspects of an individualized education plan (NJAC 6A:14), many parents of students with disabilities are not involved with their child's education at school (Sukys, Dumcine, & Lapeniene, 2015). As students get older, parents are less likely to be involved with the education of their child (Hirano & Rowe, 2016; Sukys, Dumcine, & Lapeniene, 2015). For this reason it is important for co-teachers at the high school level to work together effectively to provide their students with the education they are entitled to and necessary supports to be successful. Unfortunately, not all co-teachers have built the collaborative relationship necessary to meet the needs of all their students.

Stages of Co-Teaching

Teachers in co-teaching partnerships often report a renewed sense of profession and an increase in self-worth and creativity (Friend & Reising, 1993). Many of the benefits teachers receive from co-teaching stem from an increase in collaboration. Co-teachers experience “the joy of working as a team” (Hourcade & Bauwens, 2001, p. 246) and more support through consistent feedback. For effective collaboration, participants must share a common goal, have parity, and share resources (Cook & Friend, 1991a). Collaboration gives all teachers more support, increases competence and performance, and allows for reflective practice (Sheptytsky, 2015). Professional competence can be identified through professional satisfaction and an increase in self-worth. Increased

professional performance can be seen through experimentation and creative lesson planning in the classroom (Sheptytsky, 2015). It is no surprise that co-teachers show an increase in professional satisfaction, self-worth and creativity because co-teaching relies on collaboration (Cook & Friend, 2010) and these are benefits of collaboration as well. Co-teachers report high levels of professional satisfaction because they see improvements in their programs and students and have the opportunity to reflect and receive feedback on their practice with another person (Walther-Thomas, 1997). Co-teaching allows teachers to try new ideas and instructional methods (Graziano & Navarrete, 2012; Hourcade & Bauwens, 2001; Walther-Thomas, 1997). Co-teachers also report an increase in collaboration with others in their school district and are often invited to share their experience and knowledge (Walther-Thomas, 2001).

Despite the potential for increased professional satisfaction and collaboration, co-teachers may experience dissatisfaction and frustration (Friend & Reising, 1993). Co-teaching partnerships take time to develop (Walthers-Thomas, Bryant, & Land, 1996). Gately and Gately (2001) believe that feelings of dissatisfaction and frustration may stem from co-teachers who are stuck in the beginning developmental stage of their partnership. This could include new co-teachers as well as co-teaching partners that have been together for many years. Effective co-teaching is based on communication (Cook & Friend, 1995). Therefore, teachers can more easily move through the developmental stages by focusing on open and honest communication (Gately & Gately, 2001). Gately and Gately (2001) identified three developmental stages of co-teaching: beginning, compromising and collaborative. Weiss, Pellegrino, Regan, and Mann (2015) also identified three stages of co-teaching: blind date, pushing through, and authentic

partnership. These stages align with Gately and Gately's developmental stages (2001).

Co-teachers need to learn about each other and develop a professional relationship to be successful (Cook & Friend, 1991b; Cramer & Stivers, 2007; Weiss, Pellegrino, Regan, & Mann, 2015).

Beginning stage. Teachers who do not know each other or have a limited professional relationship are likely to start their partnership at the beginning stage. The beginning stage (Gately & Gately, 2001) or "blind date" stage (Weiss, Pellegrino, Regan, & Mann, 2015, p. 94) is the start of a professional relationship between two teachers. In the beginning stage, teacher communication is guarded, and the partners have a difficult time interpreting nonverbal cues. A disparity in communication often leads to dissatisfaction with the partnership and a lack of openness. There is an "impression of separateness" (Gately & Gately, 2001, p. 43) in this stage and partners will often bring their own materials to class or ask permission to use items in the classroom such as a stapler or writing utensil. There is often a reluctance to relinquish control, a lack of confidence in the other co-teacher, and instruction is driven by standards and curriculum goals (Gately & Gately, 2001) not the needs of the students. Co-teachers in the beginning stage of development will often experience conflict and make mistakes (Cook & Friend, 1991b). In this stage, accommodations and modifications are not embedded into the curriculum and the special education teacher is often seen as the classroom aid mostly tending to behavior and discipline issues (Gately & Gately, 2001). In the beginning stage, student assessment is based solely on content knowledge. Co-teaching partners can move beyond the blind date or beginning stage by communicating teaching

philosophies and goals, sharing experiences, and defining their roles in the classroom (Weiss, Pellegrino, Regan, & Mann, 2015).

Compromising stage. The compromising (Gately & Gately, 2001) or “pushing through” (Weiss, Pellegrino, Regan, & Mann, 2015, p. 94) stage is the next developmental stage for co-teaching partners. In the compromising stage, communication is more open and frequent and there is evidence of humor in the classroom. There becomes fluidity in the classroom as both teachers move around the room freely with the general education teacher still taking the lead role (Gately & Gately, 2001). The general education teacher will gain confidence in the special education teacher’s curricular knowledge. Hence, both teachers begin to share in planning and instructional processes equally. Notable differentiation occurs during lessons and a discussion of proper assessment is also evident (Gately & Gately, 2001). This stage is marked by compromise where a “give and take” relationship emerges (Gately & Gately, 2001, p. 42). During this phase, co-teachers *push through* challenges with the use of conflict resolution strategies (Weiss, Pellegrino, Regan, & Mann, 2015).

Collaborative stage. The final developmental stage for co-teaching partners is the collaborative stage (Gately & Gately, 2001) or “authentic partnership” (Weiss, Pellegrino, Regan, & Mann, 2015, p. 95). In the collaborative stage co-teachers utilize non-verbal cues, the partners become role models for effective communication, and communication is open and honest (Gately & Gately, 2001; Weiss, Pellegrino, Regan, & Mann 2015). Both teachers bring curricular and behavioral expertise into planning and presentation of instruction (Gately & Gately, 2001). Co-teachers differentiate instruction as needed to suit the needs of both general and special education students. They monitor

the class and decide when changes need to be made even if those changes occur mid-lesson. In the collaborative stage, it is often difficult for an outsider to determine the general education teacher from the special education teacher (Gately & Gately, 2001).

Co-teachers in this stage are confident, open to new ideas, take an active role in student support, and eliminate isolated thinking (Walthers-Thomas, Bryant, & Land, 1996). The goal for all co-teachers is to become competent in all areas of co-teaching and form an authentic partnership that relies on collaboration.

Components of Co-Teaching

What teachers do and how they do it makes for effective co-teaching partnerships (Murawski & Dieker, 2004; Scruggs & Mastropieri, 2017). Gately and Gately (2001) identified eight components of effective co-teaching: interpersonal communication, physical arrangement, familiarity with curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment. Co-teachers who are in the collaborative stage of each component are considered effective co-teachers.

Interpersonal communication. Communication is the basis for effective co-teaching (Cook & Friend, 1995). Co-teachers must use active listening skills (Besette, 2008; Cramer & Stivers, 2007; Scruggs & Mastropieri, 2017), clearly express their goals (Scruggs & Mastropieri, 2017), and identify each other's strengths and weaknesses (Ploessel, Rock, Schoenfeld, & Blanks, 2010). Conflict resolution techniques are also a part of interpersonal communication and is important for co-teachers (Conderman, 2011; Ploessel, Rock, Schoenfeld, & Blanks, 2010).

Conflicts between co-teachers may arise due to differences in teaching styles (Cramer & Stivers, 2007), philosophies, and goals; however, co-teachers need to discuss these issues and collectively find solutions in order to be effective (Ploessel, Rock, Schoenfeld, & Blanks, 2010). There are five conflict resolution techniques co-teachers can utilize when issues arise: avoiding, accommodating, compromising, dominating and collaborating (Conderman, 2011). Avoiding a conflict is good for minor issues. The accommodating technique is when one co-teacher will satisfy the other. Compromising is where both teachers give up something and neither side has their needs met.

Dominating a conflict is when one co-teacher will push a solution on the other co-teacher. This is a win-lose situation. The final technique, collaborating, is used often in effective co-teaching partnerships. Teachers using the collaborating technique will rethink situations and together develop a third option to meet the desires of both teachers (Conderman, 2011).

Researchers agree that the first step for co-teachers is to build a professional relationship (Solis, Vaughn, Swanson, & McCulley, 2012; Walthers-Thomas, Bryant, & Land, 1996). Co-teachers can use productive talk to build their relationship and become more effective (Ploessel, Rock, Schoenfeld & Blanks, 2010). The five types of conversation that can be used are relationship talk, possibility talk, action talk, opportunity talk, and follow-up talk. Relationship talk is a conversation about personal aspects of one's life. A discussion about vision, goals, and objectives is categorized as possibility talk. As part of possibility talk, a discussion about instructional beliefs, planning, parity, signals, discipline, pet peeves and feedback must take place (Cook & Friend, 1995). This type of talk is beneficial for co-teachers when determining the use of

co-teaching models. Action talk is a discussion about actions to take in order to accomplish goals and objectives. A discussion about roles and responsibilities as well as available options to reach goals is categorized as opportunity talk. The last type, follow-up talk, is a reflective process that analyzes progress and needed change. Using these different types of talk helps co-teachers improve their interpersonal communication (Ploessel, Rock, Schoenfeld & Blanks, 2010).

Co-teachers must be committed to building a relationship (Fullan & Hargreaves, 1997; Solis, Vaughn, Swanson, & McCulley, 2012) where mutual respect and trust in the other person's expertise are key (Cook & Friend, 1991b; Fullan & Hargreaves, 1997; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005). Part of interpersonal communication is defining roles and expectations (Solis, Vaughn, Swanson, & McCulley, 2012). Effective co-teachers define their roles in the classroom (Bessette, 2008; Cook & Friend, 1991b). These roles include taking attendance, instructing the opening or closure of a lesson, and grading. Written job descriptions and clearly stated expectations often assist in this area (Hourcade & Bauwens, 2001). Scruggs, Mastropieri and McDuffie (2007) and Wilson (2008) use the analogy of marriage when discussing the relationship between co-teachers. A co-teaching partnership can be a bad blind date, counting the minutes until it's over, or it can grow into a beautiful relationship (Wilson, 2008). The relationship will take time to build and will be effective if the co-teachers listen to each other (Scruggs, Mastropieri, & McDuffie, 2007), plan, share, reflect, and change to meet their professional needs and the needs of their students (Wilson, 2008).

In the classroom, effective interpersonal communication between co-teaching partners is identified by open and honest communication and the use of nonverbal cues

that assist the fluidity of class procedures (Gately & Gately, 2001). Co-teachers with effective interpersonal communication become role models for proper communication, which is important for all students, especially students with disabilities (Dieker & Murawski, 2003; Gately & Gately, 2001). It is important that co-teachers show effective ways to listen, collaboratively solve problems, and negotiate, all skills that are important for students to be exposed to (Gately & Gately, 2001; Hourcade & Bauwens, 2001). The interpersonal communication of co-teachers is also evident in how the teachers position themselves in the classroom.

Physical arrangement. The next component for effective co-teaching is physical arrangement. The placement of desks and materials is part of the physical arrangement component. This is very important for the fluidity of classroom procedures and parity between co-teachers. Placement of teachers in the classroom is also part of a classroom's physical arrangement. Effective co-teachers ensure their position is fluid and natural. Both teachers take center stage throughout the lesson and systematically position themselves in the classroom to reach the needs of students (Gately & Gately, 2001).

Familiarity with curriculum. Familiarity with the curriculum is the third component of effective co-teaching. In a co-teaching partnership at the secondary level, the general education teacher typically has more content knowledge compared to the special education teacher and the special education teacher has more knowledge on instructional strategies and interventions (Scruggs & Mastropieri, 2017). Hourcade & Bauwens found that curricular changes to accommodate students with disabilities do not typically occur in the classroom (2001). Effective co-teachers appreciate each other's knowledge and have meaningful conversations about content and accommodations as

applied to the curriculum (Gately & Gately, 2001; Walther-Thomas, Bryant, & Land, 1996). In effective co-teaching teams, general education teachers provide pacing charts and instruct special education teachers on content which increases familiarity with the curriculum (Scruggs & Mastropieri, 2017). When both teachers competently take part in presenting the lesson and giving individualized instruction (Gately & Gately, 2001) they are creating parity in their relationship.

Curriculum goals and modifications. The fourth component of effective co-teaching is curriculum goals and modifications. Students in inclusion classrooms vary in academic readiness for various subjects, have different interests, and learn at different speeds (Tomlinson, 2001). To meet the needs of this diverse group of students, diverse methods of instruction are needed. Differentiated instruction is a way teachers can educate students with varying needs (Tomlinson, 2014). Teachers can differentiate the content they present, the way of presenting material, and the product a student delivers to show understanding of a concept. Teachers use a student's developmental ability, interest, and learning preference to differentiate instruction (Tomlinson, 2014) and educate them within their zone of proximal development. The zone of proximal development is the area between which students are independently capable of completing an activity and where activities are too challenging to accomplish even with support (Vygotsky, 1930-1934/1978). There are a variety of techniques that can be used to differentiate instruction in a classroom. These include tiered lessons, student choice, and student-centered learning (Tomlinson, 2014). It is through collaboration and differentiation where co-teachers provide support to their students and build a rich learning environment (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010).

Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie (2005) found that in co-taught classrooms where the content was assessed through standardized testing, covering content was a bigger priority than making modifications to support students. In researching various methods of instruction that involved the inclusion of special education students in general education classrooms, Manset and Semmel (1997) found that mandated curricular changes in inclusion classrooms lead to positive student outcomes. These mandated curricular changes involve suiting the curriculum specifically to the needs of the special education students. In this component, effective co-teachers will implement modifications and differentiated instruction that helps students with disabilities succeed (Gately & Gately, 2001) without damaging the integrity of the curriculum. It becomes the responsibility of special education teachers to share their knowledge of instructional strategies, social behavior, and interventions with general education teachers (Scruggs & Mastropieri, 2017) to be effective co-teachers.

Effective co-teachers both take part in modifying assignments and providing individualized support to the students (Gately & Gately, 2001). Conderman and Hedin (2013) discuss three types of supports or strategies beneficial to students in inclusion classrooms: organizational strategies, emphasis strategies, and general study skills. Utilization of these strategies requires knowledge of the curriculum and student needs. Organizational strategies include the use of graphic organizers, schedules, and checklists. Emphasis strategies include color coding for importance and outlining chapters. General study skills include mnemonics and test taking skills. These skills along with individualized strategies, focused on a specific student's needs, can be taught by either

the special or general education teacher and will help students succeed (Conderman and Hedin, 2013).

Scruggs, Mastropieri & McDuffie (2007) found that many accommodations and modifications created to assist students with disabilities are implemented throughout the whole class in the secondary level. When questioned, co-teachers at Memorial HS agreed that they offer class wide accommodations and modifications. Memorial HS along with many other school districts have implemented Universal Design for Learning (UDL) which increases access to the general curriculum for all students (Rao & Meo, 2016; Rao, Wook Ok & Bryant, 2014). In co-taught inclusion classrooms, co-teachers utilize UDL to ensure all student with and without disabilities can succeed. The curricular design is flexible, supplemental resources are made available for students and instructional practices meet the needs of all students (Rao & Meo, 2016; Rao, Ok & Bryant, 2014). Through collaboration, co-teachers design class activities where modifications are embedded into lesson plans and help students meet curricular goals. The curriculum will tell co-teachers what to teach and UDL helps co-teachers determine how to teach it (Rao & Meo, 2016).

Instructional planning. Instructional planning, the fifth component, occurs in and out of the classroom and is a collaborative process for effective co-teachers (Austin, 2001; Gately & Gately, 2001; Hourcade & Bauwens, 2001; Murawski & Dieker, 2004; Nierengarten, 2013; Scruggs, Mastropieri, & McDuffie, 2007; Sileo & van Garderen, 2010). Collaboration is not only important because co-teachers can evaluate the effectiveness of their lessons (Gately & Gately, 2001) but it also builds a sense of parity (Bessette, 2008, Walthers-Thomas, Bryant, & Land, 1996). As co-teachers become more

collaborative, they become more effective in instructional planning. Planning gets easier because the co-teachers develop a planning routine that focuses on content goals, learner needs, and instructional delivery (Ploessel, Rock, Schoenfeld, & Blanks, 2010; Scruggs & Mastropieri, 2017; Walthers-Thomas, Bryant, & Land, 1996). In inclusion classrooms with effective co-teachers, everything between the bells is a well-planned collaborative process to meet the needs of the students (Gately & Gately, 2001; Walthers-Thomas, Bryant, & Land, 1996). When implementing UDL, co-teachers want to ensure physical and cognitive access and foster student engagement (Rao & Meo, 2016). Physical access is how students will receive information, visually, auditorily or through hands-on activity. Co-teachers increase cognitive access by offering supports and scaffolds as needed. Finally, co-teachers can foster student engagement by giving students choice and encouraging autonomy. Through collaborative planning, co-teachers build a relationship where they feel comfortable sharing ideas and receiving constructive feedback (Walther-Thomas, 1997).

Instructional presentation. The sixth component, instructional presentation, includes the presentation and structure of classroom activities (Gately & Gately, 2001). As stated previously, constructivism has been a major focus on education (Power, 1997). Techniques for presenting instruction for students in co-taught classrooms should reflect that of a constructivist classroom. Brooks and Brooks outlined techniques used in a constructivist classroom (1999). First, teachers are to encourage students to take responsibly for their learning and encourage student initiative in classroom activities. Leading to autonomy and student engagement. Next, teachers should use open-ended questions and encourage higher level thinking where students are predicting and

supporting their ideas based on knowledge they have acquired. Students should be engaged in experiences and social interactions that will reinforce or change hypotheses they have generated. Finally, teachers need to allow the use of raw data, manipulatives and interactive activities that create “real-world” connections that increase meaning and importance for students (Brooks & Brooks, 1999). In effective co-taught classrooms, co-teachers will utilize various co-teaching models to deliver instruction (Gately & Gately, 2001; Ploessel, Rock, Schoenfeld, & Blanks, 2010) and create a constructivist classroom. It is important that instructional presentation occurs collaboratively. This is one way to develop parity between co-teachers. Failure to maintain parity while delivering instruction can cause harm to the partnership (Bessette, 2008). When both teachers present material, students feel comfortable deferring to either teacher for support (Gately & Gately, 2001).

Classroom management. The seventh component is classroom management which is composed of class structure, co-teaching models, and relationships. Structure is one aspect of classroom management (Gately & Gately, 2001). Class structure includes rules, procedures and behavior management (Gately & Gately, 2001). An outside observer may see individual behavior management plans and everyone in the classroom shows a clear understanding of rules and procedures (Gately & Gately, 2001). Both teachers take an active role in behavior management (Gately & Gately, 2001; Hang & Rabren, 2009). Effective co-teachers will rely on non-verbal cues to manage behaviors (Gately & Gately, 2001; Murawski & Dieker, 2004). Co-teachers must play an equal role in developing classroom procedures and routines to be effective (Walther-Thomas, Bryant, & Land, 1996).

Co-teaching models. Another aspect of classroom management includes co-teaching models. Cook and Friend (1995) identified six models of co-teaching. These models include one teach-one observe, station teaching, parallel teaching, alternative teaching, one teach-one assist, and team teaching (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Team teaching, in the context of inclusion classrooms, refers to both a general education and a special education teacher sharing the instructional responsibilities equally in a smaller class as opposed to two general education teachers teaching a larger class. Each co-teaching model requires a different level of participation and responsibility on behalf of the teachers (Solis, Vaughn, Swanson, & McCulley, 2012).

The utilization of the six models of co-teaching allow teachers the opportunity to divide classroom roles and alternate between who is the lead teacher on a given day or part of a class period. They also allow teachers to address the needs of both special education students and general education students (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Co-teachers may not use all of the co-teaching models at once (Sileo & van Garderen, 2010). Some co-teachers will not use all of the models (Sileo & Garderen, 2010) and some co-teachers will use various models in the same class period (Cook & Friend, 1995). Co-teachers need to use their expertise of the curriculum and student needs while taking into consideration environmental restrictions when planning appropriate co-teaching models (Cook & Friend, 1995) for a given lesson. In the beginning stage, co-teachers are encouraged to focus on one model at a time (Sileo & van Garderen, 2010) and slowly integrate other models into their lessons.

One teach-one observe. One teach-one observe is typical whole class instructional method for inclusion classrooms (Solis, Vaughn, Swanson, & McCulley, 2012). One teacher, usually the general education teacher, instructs the class while the other teacher, usually the special education teacher, observes the students. The observer will record behavioral, academic, and social data (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Wilson, 2008). In this model, the non-presenting teacher can oversee student performance, keep students on task, and monitor questions asked by students and the other teacher (Wilson, 2008). The observer, if consistently the same teacher, will lose authority in the classroom and parity may not develop (Cook & Friend, 1995).

Station teaching. Station teaching is another co-teaching model. Students are separated into three or more groups or stations. They are then instructed by one of the teachers at two of the stations and engage in independent work at subsequent stations (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Each teacher will teach a portion of the lesson to a small group of students (Cook & Friend, 1995; Hourcade & Bauwens, 2001; Solis, Vaughn, Swanson, & McCulley, 2012). Then, the students will rotate stations and the teachers will instruct their portion of the lesson to a new small group. This approach requires teachers to share planning and implementation responsibilities (Cook & Friend, 1995). Issues with this model can occur if one station consistently finishes sooner than the other. Students benefit from the lower teacher to student ratio and students with disabilities can be integrated into groups instead of being singled out (Cook & Friend, 1995). Special education students should not be singled out because they may develop a label. This label can cause psychological harm and isolate special education students in the classroom and with peers socially (Thomson, 2012).

Parallel teaching. Parallel teaching is used to offer more individualized instruction and elicit more classroom participation (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). The teachers split the class in half and each teacher presents the same lesson at the same time in the parallel co-teaching model (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Solis, Vaughn, Swanson, & McCulley, 2012). Like station teaching, issues can arise if teachers do not stick to a planned schedule or if teachers have different preferences on allowable noise level (Cook & Friend, 1995) and other classroom management philosophies.

Alternative teaching. Alternative teaching is another co-teaching model. It is commonly used in the elementary level for language arts. In this model, one teacher teaches the majority of the class while the other teacher instructs a small group (Cook & Friend, 1995; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Solis, Vaughn, Swanson, & McCulley, 2012; Wilson, 2008). This small group can be used for enrichment or remediation purposes (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Solis, Vaughn, Swanson, & McCulley (2012) categorized alternative teaching as a form of parallel teaching. A major risk with this model is the potential for singling out students with disabilities (Cook & Friend, 1995) by always grouping the remedial students together.

One teach-one assist. The most commonly used co-teaching model used in the secondary level is one teach-one assist (Scruggs, Mastropieri & McDuffie, 2007). One teacher, usually the general education teacher, teaches the lesson while the other teacher, usually the special education teacher, offers individualized assistance to the students (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). The assisting teacher can

clarify directions, re-teach the lesson, and provide differentiated instruction to targeted students (Wilson, 2008). At the secondary level, the amount of content knowledge typically determines which teacher takes on the lead role (Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005). Limited teacher planning is required, and basic support is provided to the students (Cook & Friend, 1995). Unfortunately, if the same teacher is always assisting and not presenting instruction, parity is lost. That teacher may feel like a teacher's assistant and lose authority in the classroom (Cook & Friend, 1995). Additionally, in this model the teachers are not fully utilizing each other's skills and differentiated instruction suffers (Conderman & Hedin, 2013).

Team teaching. When co-teachers both play an equal role in instructional presentation, the model is called team teaching (Hourcade & Bauwens, 2001). In team teaching, both teachers lead the class by offering opposing views, showing multiple ways to solve a problem, or alternating the lead role throughout the lecture (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010; Solis, Vaughn, Swanson, & McCulley, 2007). In team teaching, while one teacher is speaking, the other can write directions on the board, interject with questions or opposing views, and can verbalize possible confusion students may be having (Wilson, 2008). Co-teachers simultaneously instruct, model, and question during a lesson which can be difficult for many co-teachers especially if they are lacking in planning and trust (Cook & Friend, 1995).

Using co-teaching as a method of instructional delivery has shown to increase student achievement (Murawski & Swanson, 2001; Tremblay, 2013; Van Garderen, Stormont, & Goel, 2012; Walsh, 2012). However, there is still a need for research on the impact of specific models of inclusion and student outcomes (Van Garderen, Stormont, &

Goel, 2012). Many studies on co-teaching have looked at the effectiveness of implementation of co-teaching models (Murawski & Swanson, 2001). Other studies that looked for a relationship between co-teaching and student achievement did not measure effectiveness of the co-teaching models with student outcomes empirically. Instead, these studies identified student achievement only through the perception of teachers (Hillsman & Brumbark, 2013; Van Garderen, Stormont, & Goel, 2012). Hence, it is difficult to determine what co-teaching model has a greater impact on student outcomes.

Relationships and community are a third aspect of classroom management (Gately & Gately, 2001). Classroom community is student-student relationships and teacher-student relationships in terms of belonging and satisfaction of needs met (Capone, Donizzetti & Petrillo, 2017). A sense of community is important because it helps students create a sense of identity (Capone, Donizzetti & Petrillo, 2017). Teachers create the climate of the classroom and can enhance these relationships (Frisby & Martin, 2010). Community is developed through multiple relationships (Frisby & Martin, 2017). Co-teachers can build a sense of community by utilizing techniques that increase student engagement. As student engagement increases, students participate more in projects and class discussion because they feel more included and accepted by their peers (Mikami, Ruzek, Hafen, Gregory & Allen, 2017). The perception of a good relationship with peers is a good predictor of a strong sense of community (Capone, Donizzetti & Petrillo, 2017). Meanwhile, good teacher-student relationships as well as higher student engagement, leads to better academic achievement (Capone, Donizzetti & Petrillo, 2017; Mikami, Ruzek, Hafen, Gregory & Allen, 2017). The use of multiple co-teaching models can enhance student-student relationship as well as student-teacher relationships.

Assessment. The final component is assessment, and it is an important aspect of effective co-teaching (Gately & Gately, 2001; Murawski & Dieker, 2004). This component includes the development, implementation and evaluation of assessments (Gately & Gately, 2001). Assessments can occur in the form of student observations, projects, presentations or portfolios (Powers, 1997). Effective co-teachers collaboratively decide on assessments that will best measure the progress of their students (Gately & Gately, 2001). Murawski and Dieker (2004) encourage co-teachers to vary assessment methods and offer students assessment options that showcase their strengths and knowledge. Effective co-teachers develop assessments that focus on content and meet individual goals of students simultaneously (Gately & Gately, 2001). The eight components of co-teaching are areas that co-teachers must engage in. Working towards the collaborative developmental stage in each area will help co-teachers become effective partners.

Administrative Role In Co-Teaching

Co-teachers need administrative support (Scruggs, Mastropieri, & McDuffie, 2007; Wilson, Woolfson, Durkin, & Elliot, 2016). Administrators can support and foster effective co-teaching by scheduling common planning time (Walthers-Thomas, Bryant, & Land, 1996) and maintaining co-teaching partners year after year. Keeping partners together helps them to move through the developmental stages and become more effective co-teachers (Nierengarten, 2013). Administrators also need training in co-teaching to properly evaluate and support their co-teachers (Cook & Friend, 1995; Friend & Cook, 2010; Nierengarten, 2013). This study will use administrator perceptions to help build a picture of co-teaching at Memorial HS.

Benefits Of Co-Teaching

Co-teaching can have a positive impact on students and teachers. If effectively implemented, co-teaching can have a positive impact on student achievement (Manset & Semmel, 1997; Weichel-Murawski & Swanson, 2001) and social interactions (Scruggs, Mastropieri, & McDuffie, 2007). Compared to a classroom taught by a single teacher, students have more one-on-one tutoring available (Manset & Semmel, 1997), individual learning needs are better met (King-Sears, Brawand, Jenkins, & Preston-Smith, 2014), there are higher levels of classroom participation, and better classroom behaviors (Scruggs, Mastropieri, & McDuffie, 2007) in co-taught classrooms. Students also receive more support, show higher levels of self-confidence, and receive higher SAT scores (Hang & Rabren, 2009) compared to students in a classroom with a single teacher.

A study in Virginia analyzed the benefits of co-teaching for students and teachers (Walther-Thomas, 1997). Special education students showed improved self-esteem and self-confidence, were more engaged in the classroom, had increased attendance, improved their classroom behavior, and had an increase in peer relationships (Walther-Thomas, 1997). General education students received higher grades, more individualized instruction, increased development of study skills, and an increase in social skills and peer relationships (Walther-Thomas, 1997). Teachers expressed professional satisfaction, more personal support, and opportunities for collaboration and professional development (Walthers-Thomas, 1997). Additionally, co-teachers have an increase in content knowledge and better classroom management skills (Scruggs, Mastropieri, & McDuffie, 2007) compared to teaching alone in a classroom.

Research on special education, specifically co-teaching, has been done throughout the nation. Previous studies have focused on perceptions, (Austin, 2001; Bessette, 2008; Hang & Rabren, 2009; Walthers-Thomas, 1997) efficiency, (Austin, 2001; Batts, 2014; Hang & Rabren, 2009; Van Graafeiland, 2002) and benefits of co-teaching (Hang & Rabren, 2009; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Walthers-Thomas, 1997). Researchers have found that effective co-teaching can lead to positive outcomes for students and teachers alike (Hang & Rabren, 2009; Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Walthers-Thomas, 1997).

Co-Teacher Training

A major challenge for co-teachers is a lack of preparation in collaborative teaching techniques (Ploessel, Rock, Schoenfeld, & Blanks, 2010; Strogilos, Tragoulia, & Kaila, 2015). Co-teachers need training before they co-teach (Austin, 2001; Nierengarten, 2013). Many pre-service programs focus on instructional techniques relevant to the elementary level (Dieker & Murawski, 2003). Secondary teachers are prepared differently compared to elementary teachers in their preparation programs. Secondary general education teacher preparation programs focus on a single content area, whereas elementary teachers are trained in multiple subjects. Special education teacher preparation programs, regardless of academic level, have a high focus on classifications, accommodations, and assessments.

Many preparation programs for special education require pre-service teachers to have a dual major. Meaning, they must major in special education and a content area. However, instructional and intervention strategies are the main focus for special educators (Scruggs & Mastropieri, 2017). In my experience, special educators at the high

school level are placed wherever there is a need for a certified special education teacher. This placement may or may not be in the content area that follows their education. For example, a special educator with a background in biology may be placed in a math classroom. Special education teachers are expected to be experts in a variety of disabilities and content areas across multiple grade levels (Sindelar, Wasburn-Moses, Thomas, & Leko, 2013).

General education teachers are trained to be isolated teachers with a focus on content (Murawski & Dieker, 2004). These teachers have little experience or training with special education or co-teaching. It is not uncommon for a general education teacher to walk into an inclusion classroom with a group of students who have disabilities they are not familiar with and a co-teacher they do not have a professional relationship with. Many special education teachers feel that general education teachers would benefit from training in collaborative teaching methods (Austin, 2001; Solis, Vaughn, Swanson, & McCulley, 2012).

Effective co-teachers must have initial and ongoing training (Batts, 2014; Cook & Friend, 1995; Hourcade & Bauwens, 2001; Nierengarten, 2013; Scruggs, Mastropieri, & McDuffie, 2007). Professional development is an excellent method to increase the effectiveness of teachers. Professional development and training gives teachers the knowledge and confidence to be more effective (Nierengarten, 2013). Co-teachers need training in co-teaching models as well as collaborative practices to be effective (Buckley, 2005; Walsh, 2012). Friend, Cook, Hurley-Chamberlain, & Shamberger (2010) feel that professional development must take place with both co-teachers simultaneously. Through professional development, co-teaching teams can identify the strengths of both

teachers and merge them together to create an environment that meets the needs of all learners (Murawski & Dieker, 2004).

Co-Teaching Rating Scale

Saying that students are in a co-taught classroom does not mean students are receiving the benefits of a co-taught environment. Research has shown that students in inclusion classrooms have higher academic (Manset & Semmel, 1997; Weichel-Murawski & Swanson, 2001) and social outcomes (Scruggs, Mastropieri, & McDuffie, 2007). If co-teachers are lacking in parity or only assist select students, the class will not receive the benefits previously addressed. Researchers have found that co-teaching needs to be evaluated (Austin, 2001; Wischnowski, Salmon & Eaton, 2004). Proper evaluation of co-teaching can lead to professional development plan that assist co-teachers to be more effective (Bessette, 2008; Batts, 2014; Van Graafeiland, 2002; Weiss & Lloyd, 2015). Co-teachers must have a method of evaluating their effectiveness as co-teaching partners (Austin, 2001). Gately and Gately (2001) created the Co-teaching Rating Scale (CtRS) which informally identifies strengths and weaknesses of co-teaching partners in all eight of the effective co-teaching components. The purpose of this tool is to identify areas where professional development is needed and identify the developmental level of the partnership (Gately & Gately, 2001; Van Graafeiland, 2002). The utilization of this measurement tool is to give co-teachers data that can assist in the creation of meaningful professional development that will meet their professional goals (Gately & Gately, 2001; Van Graafeiland, 2002).

A study from 2002 asked if the CtRS would help improve co-teaching. Van Graafeiland (2002) found that it can. In this study, she found that teachers who

responded honestly on the CtRS and were willing to discuss the results would see improvement in their co-teaching practices. She also found that the special education teachers tended to rate some components higher than the general education teacher. Ultimately, she found that the CtRS offered a way for co-teachers to reflect on their practices and engage in more meaningful collaboration (Van Graafeiland, 2002).

Rationale for Study

Austin (2001) states that the effectiveness of co-teaching must be evaluated. This study collected data that explored the perceived effectiveness of co-teachers. Until this study, co-teaching at Memorial HS had not received much attention. Additionally, there has been limited in-district training on co-teaching over the past five years at the high school. Co-teachers may elect to attend out of district training, but the district does not currently provide sustained professional development for co-teachers. These are two reasons why an administrator at Memorial HS requested co-teaching be explored. That administrator wants to provide his co-teachers with support and meaningful professional development.

Memorial HS will benefit from the proposed study; education literature will too. This study offers a technique to explore co-teaching through the perceptions of co-teachers and administrators at a high school. There is limited research on the effectiveness of co-teaching based on Gately and Gately's (2001) eight components of effective co-teaching. Using the CtRS, this study determined the developmental stage of co-teaching partners in each of Gately & Gately's (2001) components. Additionally, this study offers recommendations for high schools experiencing similar challenges as presented in the finding of this study. This study provides an in-depth look at co-teaching

at a large suburban high school and provides additions to education literature about perceptions of co-teaching including challenges and recommendations to improve co-teaching practices.

Summary

Chapter two began with the history of co-teaching in special education and an accepted definition of co-teaching. Since students with disabilities are the primary driving force behind co-teaching, there is a section on common classifications found in inclusion co-taught classrooms. The next portion of the chapter described the developmental stages and eight components of effective co-teaching. Then, the role of administrators was briefly discussed. Next, there was a section on the benefits of co-teaching for students and teachers. The chapter ends with current co-teaching practices and the Co-teaching Rating Scale (Gately & Gately, 2001).

The next chapter will describe the methods of the research study in greater detail. Chapter three will begin with a summary of co-teaching. Next, the purpose of the study and research questions will be described. Then, the design approach including the setting and participants will be discussed. Data collection techniques will be outlined followed by a brief summary on how the data was analyzed. Validity, the role of the researcher and ethical considerations will conclude chapter three.

Chapter 3

Methods

Co-teaching is a method of instruction where two teachers, one special education and one general education, simultaneously teach a classroom of students. Co-teaching can have many benefits for students and teachers if implemented effectively (Manset & Semmel, 1997; Scruggs, Mastropieri, & McDuffie, 2007; Weichel-Murawski & Swanson, 2001). In many cases, developing an effective partnership can take a long time (Walthers-Thomas, Bryant, & Land, 1996). Walthers-Thomas, Bryant and Land (1996) recommend a pilot test of co-teaching for nine weeks and summer co-planning before teachers dedicate an entire year to co-teaching. A pilot test as suggested does not occur at Memorial HS. Instead, co-teachers are using the first few weeks of school with no summer co-planning to “test” their co-teaching processes. Some co-teachers will develop an effective partnership within these first few weeks, whereas many others may take a few years (Gately & Gately, 2001). Walthers-Thomas, Bryant and Land (1996) recommend that co-teachers work together for a minimum of two years to develop an effective co-teaching partnership. In Abbye-Taylor (2013) the participants said three years is appropriate. Essentially, co-teachers need to develop a good working relationship to be effective. This study looked at that relationship and wondered what co-teachers and administrators believe about their own co-teaching experiences at Memorial HS.

This chapter will discuss the purpose of the study, the guiding research questions, and the research design. Then, background information on Memorial HS and the participants for the study will be discussed. The following section will discuss data

collection, data sources, and validity. There will be a section on data analysis, the role of the researcher, and ethical considerations. By the end of this chapter, the reader will have an understanding of the methods used for this case study.

Purpose of Study

The purpose of this case study was to explore the perceived effectiveness of co-teaching at Memorial HS. This study sought to explore co-teaching through the eyes of co-teachers and administrators. Additionally, this study sought to answer a question of effectiveness related to Gately and Gately's (2001) eight components of effective co-teaching. Finally, this study looked for challenges co-teachers face and, as requested, made recommendations for professional development that could address some of these challenges.

Research Questions

This study explored co-teaching experiences of both the special and general education teachers in co-teaching partnerships at Memorial HS. The research questions were the center of the study (Maxwell, 2013) and were used to construct knowledge about the experiences and perceived effectiveness of co-teaching partners and challenges they face. The research questions that lead this study are:

1. How do co-teachers at Memorial HS perceive their knowledge of and effectiveness with co-teaching in their current setting?
 - a. How effective are these co-teachers in their current setting based on Gately and Gately's (2001) eight components of effective co-teaching?
2. What are the perceptions of administrators at Memorial HS on the effectiveness of co-teaching practices at their school?

3. What challenges do co-teachers at Memorial HS perceive as barriers to their effectiveness as co-teachers?

Research question one wants to know how co-teachers perceive their co-teaching experience. Additionally, explored how effective Memorial HS's co-teachers are based on Gately and Gately's (2001) eight components of effective co-teaching. Gately & Gately (2001) identified eight components of effective co-teaching: interpersonal communication, physical arrangement, familiarity with curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment. This study followed the assumption that if co-teachers are in the collaborative stage in each of Gately and Gately's (2001) components, they are effective co-teachers. Research question two sought to explore how the administrators at Memorial HS perceive co-teaching in regards to its effectiveness. Finally, research question three asks about challenges are faced by co-teachers at Memorial HS that are potential barriers to their effectiveness.

In answering the research questions, a picture of co-teaching within the context of the high school was built. Within this picture, perceived effectiveness of co-teaching at Memorial HS were identified. In addition, co-teaching challenges were addressed. The conclusion of this study generated a picture of co-teaching at Memorial HS and recommendations to improve co-teaching practices.

Design Approach

A single case qualitative research design was selected to answer the research questions for this study. Data was collected in the natural environment of the participants and lead to an understanding of a phenomenon which are key components in qualitative

research (Creswell, 2014) Specifically, this study is an exploratory case study (Merriam & Tisdell, 2016) because it was exploring co-teaching and the need for professional development within the context of Memorial HS. A single case design was chosen because there is one unit on analysis, co-teaching at Memorial HS, which for this study, has four embedded sub-units. Each sub-unit consisted of a co-teaching dyad. Like many high schools across the nation, Memorial HS offers co-teaching as an instructional method to deliver a general education to classified students. Memorial HS is a large suburban high school with a diverse population. The percentage of diversity along with graduation rates is comparable to state and national averages (US DOE, 2016; US DOE, 2017). This makes Memorial HS a representative case with the potential for external generalization (Maxwell, 2013) for similar high schools. Although generalizations are not typically common for a single case study (Stake, 1995), many of the findings for this study are prevalent in literature and have been identified in other cases. This makes Memorial HS a representative case with the potential for external generalization (Maxwell, 2013) for similar high schools.

Setting

Memorial HS was chosen for this study due to a request by the administration of the school to analyze the current model of co-teaching with the goal of making a list of valid recommendations for professional development on co-teaching. The district has a little less than 3,000 students. Most of the district's student body is white with about 20% of the students identifying as Hispanic (National Center of Educational Statistics [NCES], 2018). A little less than half of the student body is economically disadvantaged and about 20% of the student body is classified under special education (NCES, 2018).

The high school has approximately 1,500 students in grades nine through twelve and offers a variety of student placements which include self-contained, small class, general inclusion, college prep, honors, and advanced placement. The high school student body is mostly white with approximately 20% of students identifying as Hispanic. Less than 20% of the student body is classified under special education and almost half of the student body are considered economically disabled. The demographics of the special education population mirrors that of the districts with one exception. There are a disproportionate number of black students classified under special education. A higher percentage of students with disabilities are graduating from this high school compared to other high schools across the nation. The national average for graduation of special education students is 71%, Memorial HS has a graduation rate of almost 90% for students with disabilities. Considering that most of the high school's special education population is taught in inclusion classrooms, an assumption can be made that the school is offering these students with proper opportunities to succeed. The most common disabilities at the high school include specific learning disabilities (SLD), other health impaired (OHI), and communication impaired which matches national data.

Students with disabilities have a variety of academic placements available based on their specific needs which range from self-contained to advanced placement. These settings will be described from most restrictive to least restrictive. In the self-contained setting, the most restrictive environment, students are receiving all core classes alternating between one or two classrooms with the same teachers throughout the day.

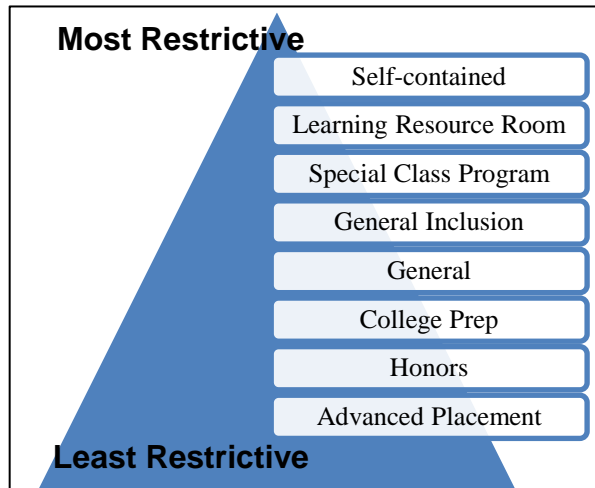


Figure 1. Academic Placements Available at Memorial HS

They also receive regular counseling. Another placement for special education students is the learning resource classroom; this placement is available for science and history.

This small class is taught by a special education teacher and is for students whose needs cannot be met in other placements. Special Class Program is a small class which is available for math and language arts and is taught by a general education teacher. This placement is designed for special education students that fall within a twenty-point margin of passing the yearly standardized test. Inclusion classrooms are an academic placement that includes both special education and general education students and is taught by both a special education teacher and a general education teacher. More than half of the special education population takes math, language arts, science or history in inclusion classrooms. Special education students who do not need much support from special services can take college prep, honors or advanced placement classes in all subject areas. These classes are the least restrictive. Data on state tests show that students with disabilities at Memorial HS are underperforming compared to the general

education population at Memorial HS but higher than the state average for students with disabilities. Proficiency levels for students with disabilities are almost 40% lower than general education students on the math and language arts standardized tests.

Although co-teachers share the responsibility of educating all students in the classroom, practice has shown unequal roles in this area (Strogilos & Tragoulia, 2013). This is especially true in the secondary level. The most common co-teaching model at the high school level is one teach-one assist (Scruggs, Mastropieri & McDuffie, 2007). This was evident at Memorial HS during classroom observations. Many parents of students with disabilities encourage this design to ensure their child is getting the individual instruction needed for academic and social success (Strogilos & Tragoulia, 2013). However, this model of co-teaching can lead to a separation of roles where the general education teacher is responsible for the general education students and the special education teacher is responsible for the special education students (Strogilos & Tragoulia, 2013). These perceived roles may occur in inclusion classrooms; but with effective co-teaching teams, there is an equal responsibility to all students and a separation of roles is not typically seen. Therefore, both teachers play an equal role in the success of their students. Observational data showed that co-teachers at Memorial HS, regardless of their job title, help all students equally.

Participants

Memorial HS has about 100 teachers with slightly more females than males. Most of the staff has been at the high school for more than four years. Twenty-six percent of the teachers have advanced their education and received master's degrees. There are about 20 teachers in the special education department. Within the special

education department, over half of them teach in inclusion classrooms. There are about 20 general education teachers that teach in inclusion classrooms. The unequal number of special education teachers and general education teachers that teach inclusion suggests that some special education teachers co-teach with multiple general education teachers. All teachers in co-teaching partnerships were asked to participate; however, only four teams volunteered to participate. The first set of participants were dyads of special education teachers and general education teachers who co-teach together. Criterion sampling was used to select co-teaching dyads. The co-teachers must have been current co-teachers at Memorial HS and teach in a core content area. It is important to note that although many special education teachers co-teach with more than one general education teacher, the special education teachers in this study only co-taught with one general education teacher in this study. For example, SE1 only co-teaches with GE1. She does not co-teach with GE2, GE3 or GE4.

To participate, the co-teaching dyads must have taught math, language arts, history, or science: the core content areas. This study worked under the assumption that the curriculum in these content areas are equally rigid and require similar job performances from the teachers due to the presence of the content standards which guide instruction. All potential participants were asked to attend a short meeting where the study and their involvement if they chose to participate were discussed. Any potential participants that were unable to attend the meeting were approached individually to become informed about the research study and to be given the opportunity to participate. During either the meeting or individual discussion, participants were notified of their role in the research, their right to withdraw, and issues of confidentiality. Participants were

also informed on the use of pseudonyms for this study. This study generated a sample of four co-teaching dyads. The dyads were expected to complete the CtRS and a questionnaire, be observed in their classrooms three times, and participate in a semi-structured focus group. Detailed information about the CtRS, questionnaire, observation protocol, and focus group protocol will be discussed later in this chapter.

The second set of participants included administrators. They also had to fall within a certain criterion. They must have been employed at Memorial HS and directly supervise co-teachers. All potential administrator participants met with me individually prior to any involvement in the study. Administrators were informed of the study and their potential involvement. They were also informed about the use of pseudonyms and their ability to withdraw from the study at any time. Participation was voluntary, and participants were able to remove themselves from the study at any time. For the protection of the participants, pseudonyms were used. The participants were expected to participate in a semi-structured focus group. During the focus group, participants discussed their experiences with co-teaching at the high school and areas in co-teaching, in their opinion, that need professional development. The focus group took place in the office of one of the administrators at Memorial HS and followed the administrator focus group protocol which will be addressed later in this chapter.

Building relationships. It is important for the participants to understand the role of researcher. In addition, the researcher must understand the role of the participants and foresee any issues that may arise during the study (Maxwell, 2013). Stake (1995) believes that gaining access to a research site is a process that should not be rushed. Since I am an employee at the research site, I am already familiar with the people, site,

and schedules. I have a professional relationship with the participants. To build a relationship with the administrators, I met with each administrator and described the study prior to the focus group. This allowed the administrators to ask questions and build a familiarity with me as a researcher. Since we have a similar background, a shared desire to improve educational practices, we have a built-in level of trust. Likewise, all co-teachers participating in the study were invited to a meeting where the purpose of the study and researcher expectations were described. During this meeting, co-teachers had the opportunity to ask questions and became more familiar with me as a researcher. I share a similar background with the co-teaching participants because I am a co-teacher. During the study, I was present at Memorial HS which further built a relationship with the participants. Maxwell (2013) and Stake (1995) both believe it is important to give something back to the participants for their time. I provided food and beverages at the focus groups for the participants as a symbol of thanks.

Data Collection

Case studies require the researcher to collect data that creates in-depth information about the issue being researched. The collection of multiple data sources, including numerical data, made the data more defined and explicit (Maxwell, 2013). In this case study, data related to the effectiveness of co-teaching dyads was collected in four ways: focus groups, a rating scale, questionnaire, and observations. Focus group and observation protocols, the CtRS and questionnaire can be found in the appendices of this paper.

Focus groups. Focus groups were chosen as a method of data collection because this case study focused on a specific topic. A focus group is an interview about a topic

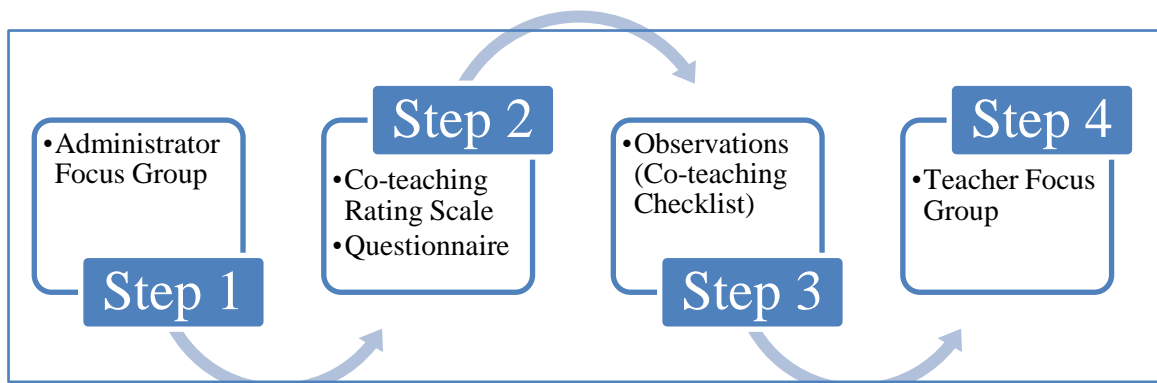


Figure 2. Data Collection Process

with a small group of people who have knowledge on that topic (Merriam & Tisdell, 2016). In focus groups, the researcher has control of the questions being asked (Creswell, 2014) and can use conversation between participants to develop new ideas about the topic (Merriam & Tisdell, 2016). Two focus groups were used in this study, one with the administrators and one with the co-teaching dyads.

For the remainder of this paper, the first focus group is referred to as the administrator focus group. The protocol for the administrative focus group was created with questions from Feutsel (2015), Murawski and Lochner (2011), and Tackas (2015). Permission was granted for the use of all questions adapted from their original sources. The semi-structured focus group protocol has nine open ended questions which include a variety of question types. The administrator focus group began with a brief summary of the study. Then participants were asked an introductory question. Introduction questions are non-intrusive questions that provide a narrative description (Castillo-Montoya, 2016). Questions two and six are transition questions and questions three, four, five, seven and eight are key questions. Transitions questions are less obtrusive than key questions and form a link between introductory and key questions. Key questions focus on directly

answering the research questions. Lastly, participants were asked a closing question. Closing questions are used to close out the conversation (Castillo-Montoya, 2016).

This focus group elicited information that helped answer the research questions. Administrators were asked to reflect on previous observations they conducted in co-taught classrooms. They were also asked about professional development and supports offered to co-teachers. Finally, they were asked for their perception on what can be done to improve co-teaching practices at Memorial HS.

The second focus group for this study consisted of the co-teachers that volunteered for the study. For the remainder of this paper, the second focus group is referred to as the teacher focus group. The semi-structured teacher focus group protocol consists of eight questions adapted from multiple previous studies. Question one is adapted from King-Sears, Brawand, Jenkins, & Preston-Smith (2014). Questions two, three, five and seven are adapted from Feutsel (2015). Question 4 is adapted from Murawski and Lochner's Co-Teaching Checklist (2011) and questions six and eight are from Tackas (2015). Permission has been granted for the use of all questions adapted from their original sources. The focus group began with a summary of the study. Then participants were asked an introductory question. Questions two, three, five and six are transition questions and questions four and seven are key questions. Lastly, participants were asked a closing question. The teachers were asked about their perceptions on co-teaching. They were also asked about professional development and support they have received from the school within the recent past. Lastly, teachers were asked for their opinion on what can be done to improve co-teaching practices at Memorial HS. The teacher focus group was the last source of data collected in this study.

Co-teaching rating scale. Gately and Gately (2001) created the Co-teaching Rating Scale (CtRS) which informally identifies strengths and weaknesses of co-teaching partnerships in eight components. These components are interpersonal communication, physical arrangement, familiarity with curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment. The purpose of this tool is to identify areas where professional development may be needed. In January of 2016, the Council of Exceptional Children (CEC) recommended the use of the CtRS to help co-teachers (2018). The CEC encourages and grants permission for the use of the CtRS. This study used the CtRS, along with other sources of data, to answer the research questions.

Two versions of the CtRS were used in this study, the special education teacher format and general education teacher format. Each of the rating scales were created for specific types of participants (Gately & Gately, 2001). The dyads completed either the special education format or the general education format depending on their job description. During the initial meeting, co-teachers independently completed the CtRS and returned them directly to me. Co-teachers did not view each other's CtRS. Then, the results from each co-teacher were compared with their partner to identify team strengths and discrepancies. The data identified effectiveness in each component and the developmental stage of that dyad. The use of this tool aided in creating a picture of co-teaching at the high school and answering the research questions

Questionnaire. An open-ended questionnaire was selected to encourage participants to express their opinions in their own words and gain insight into their feelings and actions (Fink, 2009). The questionnaire elicited information that was not

revealed through the other data sources. A combination of questions from previous studies were used in the creation of the questionnaire. Questions one & two were taken from King-Sears, Brawand, Jenkins, & Preston-Smith (2014). Questions three, four, six and seven were taken from Feutsel (2015) and question five was taken from Tackas (2015). Permission has been granted for the use of all questions adapted from their original sources. Questions one and two ask for background information. Questions three and four are questions about the participants' feelings and questions five, six and seven are opinion questions. Teachers were first asked what area they co-teach and how long they have co-taught for. In addition, teachers were asked about positive and negative aspects of co-teaching. They were asked what factors they believed impact co-teaching. Finally, they were asked what supports are needed to be effective and how to improve co-teaching practices.

Observations. Observations were chosen as the fourth method of data collection because this study explored actions and situations (Merriam & Tisdell, 2016). Classroom observations offered first-hand accounts of behaviors (Creswell, 2014) between the co-teachers and allowed me to record data that was not available through the focus groups, rating scale, or questionnaire. Each dyad was observed three times for no longer than 45 minutes per observation. The climate of Memorial HS limited the impact I had on the observations and the data collected from them. At times, a researcher can be seen as intrusive during an observation (Creswell, 2014); however, at Memorial HS, classroom visitations are highly encouraged between professionals as a means to gain insight on pedagogical and classroom management techniques. I was a non-participant observer and was seen as a just another professional engaging in a classroom visitation.

The Co-teaching Checklist was used during the observations (Murawski & Lochner, 2011). Permission to use the Co-teaching Checklist for dissertation purposes has been granted by Sage Publishing. This observation tool was chosen because it was created with the specific purpose of observing co-teachers and identifying areas where co-teachers may need more support (Murawski & Lochner, 2011). The Co-teaching Checklist is broken into three sections, things to ask for, things to look for and things to listen for (Murawski & Lochner, 2011). This study only used two sections, “look for items” and “listen for items.” The checklist looked for a variety of things that relate to co-teaching including parity, inclusion of all students, evidence of differentiation, and a variety of instructional methods. The listen for items includes “we” language, student conversations, and questioning techniques (Murawski & Lochner, 2011). Using this observation protocol eliminated bias and helped develop a picture of the co-teaching experience as it was occurring.

Another reason the Co-teaching checklist was chosen as a data collection tool was because it directly relates to six of Gately and Gately’s (2001) eight components of effective co-teaching. Items one, five, eight and 11 relate to interpersonal communication. Items two and 10 relate to physical arrangement. Items six and 14 relate to curricular goals and modifications. Item five relates to instructional planning. Items seven and eight relate to classroom management and items three and nine relate to instructional presentation.

Field Notes

Throughout data collection, field notes were written. Field notes are important because they help the researcher remember details and ideas about the study. Since, I

was present at Memorial HS before, during, and after data collection procedures. Field notes were taken during observations and as pertinent data arose.

Data Analysis

Due to the nature of the study, a variety of data collection techniques were being employed. Focus groups and questionnaire responses provided qualitative data. The CtRS and Co-teaching Checklist collected numerical data. Qualitizing numerical data is a data analysis technique used when a narrative can produce richer information than the numbers (Teddlie & Tashakkori, 2009). Numerical data in this study was converted into narrative data. Notes from the administrator focus group were sent for member checking and then coded. The teacher focus group was transcribed and then coded. The teacher focus group transcript was read twice for understanding then coded using initial coding. The questionnaire responses were read for understanding and then coded also using initial coding. The initial codes, 169 codes from the teacher focus group and 48 from the questionnaire responses, were then coded using pattern coding. The codes were organized based on similarities and patterns of behaviors. The groups of codes were then labeled into 25 categories. These categories were then merged to make themes that represented the data from these two data sources. The categories generated from this data will be further discussed in chapter four.

A written transcript was not available for analyzing of the administrator focus group due to a voice recorder malfunction. Instead, the notes were sent to the participants of the focus group for member checking. Direct interpretation was first used to analyze the data. Then, the notes were coded using initial coding. The 43 codes were

then grouped based on similarities and each group was then given a category name. These categories will be discussed in chapter four.

Validity

Validity can be an issue for any study, especially in qualitative research. For this study, I employed many techniques to ensure validity. Two types of validity issues occur in qualitative studies, researcher bias and reactivity (Maxwell, 2013). Researcher bias stems from the researcher's experiences and expectations. A good technique to avoid researcher bias is to use respondent validation, especially in interviews. In this study the participants were given a copy of the notes from the focus groups for validation.

Reactivity is any influence the researcher may have on the setting, participants, or data collected (Maxwell, 2013). To combat reactivity in interviews or focus groups, a researcher must avoid leading questions and be mindful of their body language as to not influence the participants (Maxwell, 2013). The use of semi-structured interviews helped to reduce reactivity. Additionally, I, the interviewer, was careful not to react in positive or negative ways to answers during the focus groups.

I used these and other techniques to ensure a valid study. I was present at Memorial HS prior, during, and after data collection (Maxwell, 2013). In addition, participants were observed multiple times which increases the validity of the results. Observation audits followed the observations to ensure accuracy and validity. Rich data was gathered by transcribing the teacher focus group and utilizing respondent validation after transcription (Maxwell, 2013). Notes from the administrator focus group were given to the administrators for validation. Triangulation was achieved through the analysis of multiple data sources and through the use of member checking (Stake, 1995).

Finally, Maxwell (2013) encourages the use of numbers in qualitative data collection. The CtRS and Co-teaching Checklist offered numerical data that made the study more explicit and precise. Utilizing the aforementioned techniques increased the validity of this study.

Role Of The Researcher

My experience in special education especially as a co-teacher was very helpful throughout every aspect of this study. I have been a special educator for over ten years and have spent most of my experience in inclusion classrooms. I am also a member of the Professional Development PLC, a past member of the School Climate PLC, and a past member of the Students at Risk PLC. I have the knowledge base to understand the inner workings of an inclusion classroom and have background information regarding the amount and type of professional development received by co-teachers at Memorial HS in the past ten years.

I believe that co-teaching as a method of instruction is beneficial to all students. Based on my past experiences, a good team is necessary for student and teacher success. I believe that there are many factors that play into the creation of a good team. I feel that the most important aspect of a co-teaching team is how they relate to each other in the classroom. To me, Gately and Gately's (2001) eight components of effective co-teaching encompass what is required to be a good, collaborative team. However, I also know that effective co-teaching has its challenges. I know what my challenges have been, but I do not know what challenges other co-teachers have faced or may be facing. This study was not influenced by my own experiences, instead it was important to me as a researcher to look at co-teaching at Memorial HS with an open mind free from any pre-conceived

notions based on my past experiences. I took the role of discussion facilitator during the focus groups (Rubin & Rubin, 2012) and a non-participant observer role during the observations. My interference with the daily happenings of the classroom was limited and teachers were able to hold their classes as they normally would. This study is very important to me because it looked at how co-teachers perceive themselves, how administrators perceive co-teaching, and any challenges related to co-teaching.

Ethical Considerations

The design of this study and participation in the study presented minimal risks for both sets of participants and there were no risks for anyone choosing not to participate in the study. This study was voluntary and there were no punitive measures for anyone choosing not to participate. Participants could exclude themselves from the study at any time. Pseudonyms were used for all participants. In addition, data gathered from the dyads was not shared with the administration of the high school. Only generalized and unidentifiable data will be available to the school district for the protection of the participants. All paper data was stored in a locked area at my home. All digital data was stored on my private password protected computer and a password protected hard drive to avoid potential breaches in confidentiality. All raw data will be destroyed five years after the completion of this study.

Other ethical considerations took place in the procedure. I made the decision to gather data from the administrator focus group prior to gathering any data from the dyads. This decision eliminated the possibility that dyad specific data would influence the administrator focus group discussion. The dyads volunteered to be observed in their classrooms and were notified of the observation protocol prior to any observations. The

observations were not used as an evaluative measure and completed observation protocols were not shared with the administration. A semi-structured protocol for the teacher focus group was used to eliminate the use of specific dyad data and to avoid researcher bias. Additionally, I did not mention dyad specific information during the teacher focus group. This decision negates the possibility for any specific dyad to be identified by their survey or questionnaire responses. For the protection of the participants, only the final product of this study will be available to the administration with all identifiable information hidden through pseudonyms. Additionally, the requested co-teaching recommendations will not include any identifiable information relating to any specific participant or dyad.

Timetable

There were four steps in data collection for this study. Step one was the administrator focus group. This focus group took approximately one hour. Step two was the administration of CtRS and questionnaire. Combined, the completion of these surveys took approximately 20 minutes. Step three was classroom observations. Each dyad was observed three times within one marking period. Each observation was no more than 45 minutes in length. Finally, step four was the teacher focus group. This focus group took about an hour and a half. This concluded active participation from the participants.

Summary

This study used a variety of data sources to explore the experiences of co-teaching partners, and their perceptions on co-teaching. It also explored the administrative perception on co-teaching at Memorial HS. Finally, this study identified challenges co-

teachers at Memorial HS face that could be considered barriers to their effectiveness. Memorial HS serves as a representative case that can be generalized to other similar high schools. Data from the focus groups, CtRS, questionnaire, and observations created a picture of co-teaching at Memorial HS and resulted in data that was used to make recommendations to increase the effectiveness of co-teaching at the high school.

Chapter 4

Findings

The purpose of this study was to explore co-teaching at Memorial HS. The data collected sought to answer three research questions that asked about the perceptions of co-teaching at Memorial HS through the point of view of current co-teachers and administrators. It also sought to unveil challenges that co-teachers feel are impacting their effectiveness as co-teachers. Research question one asked how co-teachers perceive their knowledge of and effectiveness of co-teaching. Additionally, how effective co-teachers are in Gately and Gately's (2001) eight components of effective co-teaching. Question two asked how administrators perceive co-teaching at Memorial HS. Finally, research question three asked about challenges co-teachers face that they feel are barriers to their effectiveness. The answers to these questions were discovered through the collection of data in the form of a rating scale, a questionnaire, observations, and two focus groups. Field notes were also collected throughout the study. This chapter will begin by discussing the participants and their role in the study. Then, a narrative on the data from each team and the administrators follow. Finally, the chapter will end by answering the research questions.

Participants

Four co-teaching dyads and three administrators participated in the study. The co-teaching dyads completed the CtRS and a questionnaire. They were observed three times using the Co-teaching Checklist and participated in a focus group that asked about their perceptions of co-teaching at the high school. The administrators agreed to take part in a focus group that asked about their experiences with co-teaching and their perceptions

Table 1

<i>Demographics of Co-teachers</i>		
	Number of Participants	Percentage of Participants
Type		
General Education	4	36%
Special Education	4	36%
Administrator	3	27%
Gender		
Male	3	27%
Female	8	73%
Content Area*		
English	2	25%
Math	2	25%
Science	4	50%
<i>Note: *only applies to co-teachers</i>		

of co-teaching at Memorial HS. Data collected from the co-teaching dyads and administrators offered multiple perspectives and created a well-rounded picture of co-teaching at Memorial HS.

Co-teaching dyads. The first set of participants included four co-teaching dyads. The teams that volunteered for this study range in years of experience, content areas, and longevity with their co-teaching partner. The least amount to teaching experience is four years and the most amount of teaching experience is 33 years. The content areas included in this study were language arts, science and math. Due to confidentiality, the content area for specific dyads will not be disclosed. Team one has

Table 2

<i>Co-teacher Teaching Experience</i>				
Team	Participants (Co-teachers)	Years as a Teacher	Years as a Co-teacher	Years with Current Co-teacher
1	GE1	4	4	4
	SE1*	18	17	4
2	GE2	15	10	3
	SE2	9	6	3
3	GE3	5	5	5
	SE3*	8	8	5
4	GE4	15	11	11
	SE4*	33	27	11

Note: *denotes a lack of certification in the content area

been together for the shortest amount of time, four years, and team four has been together for the longest amount of time, eleven years. The range in experiences offered a lot of insight into co-teaching at Memorial HS.

Administrators. Three administrators participated in this study. AD1 and AD2 have both worked at the high school for over ten years. Before moving into administration, AD1 was a special education teacher. AD1 helped develop a co-teaching program at his former district. As an administrator, AD1 typically performs one walk-through a week in a co-taught classroom. A walkthrough is a non-evaluative short observation of classroom operations. AD1 expressed a high level of support for the co-

teachers at Memorial HS by stating, “I have never said no” to professional development for co-teaching.

Before moving into administration, AD2 taught English as a general education teacher. He expressed that he had co-taught and wrote co-teaching curriculum. However, the version of co-teaching he engaged in was with another general education teacher in a large class. As an administrator, he has observed co-teaching classrooms for 20 years performing “ideally” 10 walkthroughs or observations a month. AD3 is still new to Memorial HS but was an administrator at another high school previously. Although he does not have any co-teaching experience as defined in this study. AD3 has co-taught in the traditional sense, wherein he worked with other general education teachers on interdisciplinary lessons. The mixture of experiences from the administrators offered multiple points of view on co-teaching at Memorial HS.

Results

This case study collected data from multiple sources. The data sources include a questionnaire, CtRS, Co-teaching Checklist, two focus groups, and field notes. The administrator focus group was the first data collected. During the focus group, I took notes due to a voice recorder malfunction. The notes were then organized and typed. A copy of the notes was given to each administrator where they were asked to make corrections and additions to the data as needed. The administrators did not make any changes to the notes. After member checking, direct interpretation was done to analyze the data. Then, the notes from the focus group were coded. Codes for the administrator focus group were developed from the answers to semi-structured interview questions. The initial round of coding generated 43 codes. The codes were then grouped into

categories. The second piece of data collected was the CtRS. Dyads completed the rating scale on paper, independent of their co-teacher and returned it directly to me. The answers from the survey were placed on the tally sheet and rating scale. This information was used to determine the stage of co-teaching each dyad was in, beginning, compromising or collaborative (Gately & Gately, 2001). The numerical data was useful in determining the stage of co-teaching and discrepancies in the between co-teachers. Results from each team can be found in appendix J. The information from the CtRS identified strong and weak components of each team. To create a deeper meaning of the numerical data, a narrative for each co-teaching team was generated. The data showed that the co-teaching dyads are at the collaborative stage in seven of the eight components.

After completing the CtRS, co-teachers answered a questionnaire that asked about their co-teaching experiences and what could be done to improve co-teaching practices at the high school. The co-teachers wrote their responses to the questionnaire separately from each other and returned it directly to me. The responses for each co-teacher were compared to each other for similarities and differences. The responses to the questionnaire were coded and 48 codes were created. Codes can be found in the appendices.

Observations were another useful data source. Each dyad was observed three times using the Co-teacher Checklist (Murawski & Dieker, 2004). Numerical data from each observation was compiled and averaged into an overall score for each dyad. Memos were generated to create a better understanding of the meaning of the scores. The mean from each dyad was then placed in a spreadsheet for ease of comparison. Using the spreadsheet, it was easy to identify items that were and were not observed. There were

10 “look for items” and four “listen for items.” During the observations, teams were given a point value for items observed. Teams received a zero if the item was not observed, a one if an attempt at the item was observed, and two points if the item was observed well done. The maximum point allotment for each item was six. Team data can be found in appendix J.

The teacher focus group was the last data collected. During the focus group, I took notes as well as a voice recording. Notes were taken during the focus group to increase organization and understanding. Prior to analysis, the focus groups recordings were transcribed and sent to the participants for member checking. The transcriptions were then coded using initial coding (Saldana, 2013). During initial coding, the transcripts were read twice, and codes were generated. During initial coding, 169 codes were generated. The codes from the teacher focus group and the codes from the questionnaire were merged and grouped together based on similarities. This round of analysis produced 25 different categories. The codes and categories can be found in the appendices of this paper.

After each data source was organized and analyzed, data pertaining to individual team were copied into separate documents. Through direct interpretation, the data was used to create a narrative of co-teaching for each dyad and will be followed by a narrative of the administrators’ perceptions on co-teaching. To complete the results section, commonalities between the data in relation to participant perceptions, co-teachers and administrators, as well as data from the CtRS and Co-teaching Checklist are discussed.

Results by Team

Team one. Team one consists of a newer teacher and a more veteran teacher. GE1 has been teaching for four years and has been co-teaching with her current co-teacher for four years. SE1 has been a teacher for 18 years, has been co-teaching for 12 years. During the year when data was collected, GE1 and SE1 co-taught two class periods together. Neither teacher has their own room, they both travel from room to room with a cart for their supplies. For both periods where they teach together, they are in different rooms. GE1 said that being in multiple rooms makes it difficult to implement a consistent routine. During one of the observations, SE1 reminded the students to use care with the computers and clean up all trash, because it was not their classroom.

Questionnaire. When filling out the questionnaire, GE1 and SE1 responded similarly on four of the questions, questions three, five, six, and seven. When asked about the positive aspects of their co-teaching experience, they both responded that they have similar teaching philosophies. GE1 also said that communication is a positive. GE1 also feels that they complement each other and create a good team. SE1 agrees with being a good team by saying they are like a “well-oiled machine.” They also agree that student behaviors and student needs impact co-teaching and that more planning time would help to improve co-teaching practices. GE1 and SE1 have co-taught together for four years and have never had the same lunch or prep period. They have never had scheduled common planning time. During the focus group, SE1 apologized for not helping with planning more and said that they unfortunately have to plan lessons during the three minutes of passing time. SE1 stated on the questionnaire that she believes that open communication would improve co-teaching practices. GE1 feels that it would be

Table 3

Team One: Co-teaching Rating Scale Numerical Data for Special Education Teacher (SE) and General Education Teachers (GE)

Components of Effective Co-teaching	SE1	GE1	Average	Stage
Interpersonal Communication	9	8	8.5	Collaborative
Physical Arrangement	9	9	9	Collaborative
Familiarity with Curriculum	9	9	9	Collaborative
Curriculum Goals/modifications	9	7	8	Collaborative
Instructional Planning	7	4	5.5	Compromising
Instructional Presentation	9	9	9	Collaborative
Classroom Management	7	7	7	Collaborative
Assessment	8	7	7.5	Collaborative

beneficial to define their roles as co-teachers in the classroom. For example, GE1 feels that it would be beneficial to determine who should take attendance, be in charge of behavior management, grade assignments, etc. When asked about needed supports to be effective, they both answered with planning time; SE1 added honesty.

Co-teaching rating scale. For the CtRS, SE1 and GE1 rated seven out of eight components at the collaborative stage. Interpersonal communication was rated at 8.5 where the use of humor was the only discrepancy. GE1 rated this statement as sometimes where SE1 said usually. Both GE1 and SE1 rated physical arrangement and familiarity with the curriculum at a perfect nine. Curricular goals and modifications was received and eight. GE1 feels that she and SE1 sometimes agree on goals of the classroom and that student objectives are sometimes incorporated into the curriculum. SE1 answered both of these statements as usually. Instructional planning was the only component rated

at the compromising stage. Both GE1 and SE1 feel that planning is sometimes spontaneous. SE1 said that planning time is usually allotted (or found) where GE1 said that planning time is rarely allotted (or found). Based on information from the focus group, it can be assumed that SE1 answered usually because she finds time to plan not that time is allotted. During the focus group, SE1 expressed that she wants to have common planning time with GE1 so that they are not trying to plan lessons during passing time. Even so, they both felt that planning is usually the shared responsibility of both teachers. Instructional presentation was rated at a perfect nine. Classroom management was the second lowest rated component for team one. They both feel that behavior management is sometimes a shared responsibility. GE1 feels that classroom rules and routines are sometimes jointly developed where SE1 said usually. SE1 said that they sometimes use a variety of classroom management techniques to engage their students where GE1 said usually. The final component, assessment, was rated at a 7.5. GE1 and SE1 both feel that usually many measures are used for grading and sometimes test modifications are used. SE1 feels that IEP goals and objectives are usually considered as part of grading where GE1 said sometimes.

Observations. Team one has worked together for four years and did not receive a perfect six out of six in any “look for” or “listen for” items during their three observations. Team one received a five out of six for remaining in the same room, assisting all students, and engaging in appropriate behavior management. There were a lot of items where an attempt was made or not observed. In each observation, both teachers were in the room; however very little communication or collaboration was observed. There was little to no demonstration of parity. Although on the CtRS, GE1

and SE1 both said that they share materials, this was not observed. Each teacher only used her own materials off her own cart. During one observation, GE1 walked to the opposite side of the classroom to retrieve a post-it off of her cart even though SE1's cart was closer. It was also observed that the classroom they were teaching in was not theirs and belonged to a different teacher. During observations one and three, it appeared that most of the planning was done by GE1. During observation two, it appeared that both teachers co-planned the lesson and they communicated regularly throughout the class period. During observations one and two, there was minimal use of differentiation and technology. However, during observation three, the class was placed into small groups and used a software program to complete a group review. This program allowed for differentiation and the use of technology. Different co-teaching models were observed: one teach/one support, team teaching, and the use of small groups. It was difficult to identify the special education students from the general education students. However, it would have been a little easier to distinguish between the special educator and general educator based on who took the lead teacher role in each of the observations.

The "listen for" items are where team one struggled. They rarely used "we" language and would typically say things like "I want..." or "I need..." instead of "We want..." and "We need..." There was an attempt in using questions and statement to engage all students and they attempted to use questioning techniques to meet the needs of all learners. The item that was the least observed involved student conversation and sense of community. Only during observation three, did most students appear to be involved in student interactions. Any other student interactions did not involve the whole class and many students seemed isolated from conversations.

Focus group. GE1 and SE1 were both present during the focus group; however, SE1 was much more vocal. SE1 feels that equal ownership of students, the ability to share ideas, and simply having a different person in the room are all positive aspects of co-teaching. She believes that co-teaching is a good thing and feels that special education students sometimes do better than general education students in the same setting. SE1 co-teaches with another teacher as well and recognizes that expectations and procedures change with each new co-teacher. With that being the case, SE1 feels that co-teachers, especially new co-teaching teams, need common planning time. About seven years ago, SE1 ran a professional development day for co-teachers. It took place in August prior to start of the school year and co-teachers would get to know each other and begin to plan their year. SE1 said that this professional development day helped co-teachers define their roles in the classroom and generate class procedures as well as offer co-teachers time to plan. The school district lost funding for this professional development day and has not had much training or professional development for co-teaching since. In SE1's opinion, co-planning time is one thing that will greatly improve co-teaching.

SE1 said that the summer professional development was a good day to plan which is something many co-teachers, especially SE2 and SE4, feel they need. SE1 feels that co-teachers need planning time and that new co-teaching teams need extra planning time. SE1 strongly expressed that new co-teachers need more than an hour here and there and instead they need whole days. SE1 believes that collaboration and the working relationship takes time. She recommended that all co-teachers should work together and be scheduled common planning time. SE1 believes that co-teachers need time to develop

their relationship, but administration does not always consider longevity when scheduling co-teachers together. She thinks administration should consider people and their working relationship instead of data and numbers. She agrees with SE4 that the administration does not take the working relationship into account when scheduling co-teachers.

Sometimes, co-teachers do not know who they will be working with until the end of the summer. Regardless of who is working together, SE1, SE2, and SE4 all believe that co-teachers must teach in area they are passionate about. SE1 shared a story of how she was placed in a content area she had very limited interest and content knowledge. She non-verbally expressed through her body language that it was a very difficult year. She did insist, however, that even if special education teachers are not certified in their content area, it can still be a positive situation if the teacher likes the content.

In the co-taught classroom, SE1 feels that special education students typically do better than general education students. She also believes that co-teaching provides students with the opportunity to speak with whichever teacher they feel comfortable with. Hence, offering them more support. SE1 thinks that the equal ownership of students and the ability to collaborate are positive aspects of co-teaching. When it comes to classroom roles and responsibilities, SE1 believes that teachers fall into the roles they are comfortable which align to their strengths. However, she knows and expressed that the roles and expectations of each other change with new co-teaching partners. SE1 also agreed with SE2 and GE3 that at times co-teachers can rely on each other too much and a change in personnel can present difficulties. Some of these difficulties can include differences in teaching philosophies and behavior management which are factors SE1 feels impact co-teaching.

During the focus group, SE1 told a story about the creation of Special Class Program (SCP) at Memorial HS. This new class was created for special education students who were close to passing the standardized test. This setting replaced the resource classrooms (LRC) for math and English. SE1 believes, and SE4 agrees, that the administration made this change because there was a lack of confidence in the teaching abilities of special education teachers at the high school. Her anger about this situation seemed exacerbated by the fact that the middle school in the district still had LRC for English and math. So, many students at the middle school in LRC are pushed into the larger co-taught classrooms in HS. SE1 sees this as a major problem that needs to be addressed. However, she feels that even if people do speak up, nothing will change because this has happened in the past. Even still, SE1 feels that teachers need to continue to speak up and voice their concerns just in case a change does happen.

Team two. I was very excited when team two volunteered for the research study. GE2 has been a teacher for 15 years and a co-teacher for nine years. SE2 has been a teacher for nine years and a co-teacher for seven years. She is dual certified as special education and the content area she teaches. GE2 and SE2 have co-taught together for three years and teach three periods a day together. GE2 has her own classroom and SE2 travels from class to class with a cart that holds her supplies. Despite bringing her cart to class, SE2 appears very comfortable in GE2's classroom. They share materials and desk space. Additionally, they both appear to share the classroom responsibilities such as behavior management and instructional presentation. In each observation, it would be difficult for an outsider to distinguish between the special education teacher and the general education teacher. This team displayed an excellent example of team

teaching. Both teachers instructed together and gave individual support. On the questionnaire, GE2 wrote that it is important to have a good working relationship with your co-teacher and that one must be willing to give up control and allow the other teacher to sometimes take over. This mentality along with the high amount of content knowledge both teachers share, may play a big role in their relationship and how they present lessons and interact with each other and their students.

Questionnaire. When looking at the questionnaire responses, GE2 and SE2 had similar responses for two questions. They both said that they have a good rapport with each other and a good relationship with their students. Additionally, they both said that workshops would be a good way to improve co-teaching practices. GE2 feels that it is beneficial that SE2 knows the content but said it is sometimes difficult when one of them alters assignments and then forget to communicate about it. SE2 feels that they have a collaborative, respectful relationship and that they share classroom responsibilities. In regard to factors that impact co-teaching, GE2 feels that common planning time and content knowledge are key. During the focus group, SE2 shared a story about a past co-teaching experience. She said that she felt like hired help and that her knowledge and experience were not valued or accepted. She did not enjoy teaching in that partnership and was happy to leave that school. This past experience, could play a role in why the relationship between co-teachers and a level of respect for each other is an important factor that impacts co-teaching. To improve co-teaching practices, GE2 feels that both teachers need co-planning time and need to attend professional development together. SE2 feels that changes to the delivery of content would be beneficial. She said, “We sometimes do the same old stuff.” SE2 would like to try to incorporate new techniques

Table 4

Team Two: Co-teaching Rating Scale Numerical Data for Special Education Teacher (SE) and General Education Teachers (GE)

Components of Effective Co-teaching	SE2	GE2	Average	Stage
Interpersonal Communication	9	9	9	Collaborative
Physical Arrangement	9	9	9	Collaborative
Familiarity with Curriculum	9	9	9	Collaborative
Curriculum Goals/modifications	9	7	8	Collaborative
Instructional Planning	8	7	7.5	Collaborative
Instructional Presentation	8	9	8.5	Collaborative
Classroom Management	9	9	9	Collaborative
Assessment	9	6	7.5	Collaborative

for teaching the content. Additionally, SE2 believes that training in Spanish would be helpful. This Hispanic and Spanish speaking populations at Memorial HS are steadily growing every year. Many ELL, English language learners, students are placed into co-taught classrooms. The idea is that they will receive more support; however, it is also difficult to see how much these students know due to the language barrier. So, SE2 believes that if more teachers in this setting learn Spanish, those students will be better supported.

Co-teaching rating scale. After data from the CtRS was placed on the tally sheet, it appeared that team two rated themselves at a perfect nine in four components. These components were interpersonal communication, physical arrangement, familiarity with the curriculum and classroom management. In the component of curricular goals and modifications, GE2 feels that student-centered objectives are rarely a focus when

designing lessons when SE2 feel they are usually incorporated. They both feel that they agree on the goals of the lessons and that modifications for students with special needs are usually incorporated into lessons. Instructional presentation was rated at 8.5. GE2 feels that SE2 presents lesson more frequently than SE2 thinks. Instructional planning was the lowest rated component, rated at 7.5. Team two feels that planning is sometimes spontaneous or changing mid-lesson and feels that common planning is always allotted or found. Team two is the only team in this study with scheduled time off together. SE3 said that planning is usually a shared responsibility, but GE2 said that it is sometimes a shared responsibility of both teachers. In the final component, assessment, SE2 rated each question related to this component as usually. GE2 did not. They both agree that usually multiple measures are used for grading. GE2 feels that test modifications are sometimes in place and that the goals and objectives for classified students are rarely considered when grading.

Observations. Team two performed very well during observations. Many of the items listed on the Co-teaching Checklist were observed well done or an attempt was made. Both teachers were working and communicating in the classroom. They shared the classroom and materials and were consistent with their behavior management approach. During the lessons, both teachers equally helped all students regardless of classification. Additionally, an outsider would not be able to distinguish between the special educator or the general educator, the special education students or general education students. This team showed an excellent display of team teaching during each observation. The lessons ran smoothly, and each teacher equally shared the lead teacher role. The only issue this presented was the lack of a use of a variety of instructional

methods. They only used team teaching as an instruction method and did not use any type of regrouping strategy. Team two made an attempt to use technology as a means to differentiate lessons. They also used questioning techniques to meet the needs of all learners. Some students were asked higher level thinking questions while others were asked more basic questions. GE2 and SE2 also phrased questions and made statements that included the entire class. Based on student conversations, there was an attempt during two observations and seen well done during one observation, a sense of community between all students regardless of classification. Another item they did very well was the use of “we” language. This team demonstrated a true sense of collaboration and shared responsibility.

Focus group. During the focus group, GE2 spoke mostly about professional development and co-teaching models. She said that she used to attend the summer co-teaching professional development workshop every year and feels that professional development is very important for new co-teaching teams. Sadly, she agreed with SE2 that most co-teaching training is lecture based. She agreed with SE2, GE3, and SE4 that she wants to see co-teaching models in action. She also talked about how Memorial HS encourages classroom visitations; however, co-teachers must use a comp period or give up their lunch to partake in a visitation. GE2 talked about how she was told about a great co-teaching team and was encouraged to observe them. But she had to do so on her own time, using a comp period and finding her own coverage to do so. She feels, and SE2 agrees, that although they are encouraged to learn from other teachers, they are punished if do a classroom visitation.

When a discussion about factors that impact co-teaching came up, GE2 agreed with SE1, SE2, SE4, and GE3. A difference in teaching philosophies is a problem and said it could lead to major problems. GE2 also agrees with SE2 that personalities must be matched for a successful team.

SE2 has had seven years' experience as a co-teacher and is very passionate about her job and her students. During the data collection phase of this study, I heard from more than one teacher that SE2 would do anything for her students. When asked about accommodations and modifications, SE2 expressed, like everyone else, that she offered them to whole class. For example, if one student requires a word bank, she gives all students a word bank. She does that as to not single out any specific students and because she feels that some general education students need the added supports as well.

SE2 has been on both sides of the relationship. During her first year of co-teaching at Memorial HS, she was originally given a long-term substitute to work with while her co-teacher was on leave. After two weeks, the long-term substitute quit and SE2 was forced to take on the general education role. She was given a co-teacher, a special educator that was not certified in that content area but was willing to do whatever it took to help her out and to help the students. In talking about this situation, she was reminded of her first co-teaching experience at a different school. Although SE2 was certified in her content area, her co-teacher did not value her as knowledgeable or as a competent teacher. She began to dislike her job and did not feel as though she could express herself or show her true personality in the school or classroom. From this experience, the working relationship is very important to SE2 and she feels that it greatly impacts co-teaching. Other factors SE2 feels impact co-teaching include teaching

philosophy, personality, and excitement for the content. SE2 believes that if two teachers have different teaching philosophies or personalities that do not work well together, it will create a bad situation for students. Fortunately, SE2 now feels that she and her co-teacher make a good team. They attend to their students' needs quickly, switch roles regularly, and are almost always on the same page.

SE2 is happy with her co-teaching situation and her co-teacher; however, Memorial HS never asked if she wanted to co-teach. She found out that she was co-teaching when received her schedule a few weeks before the start of the school year. SE2 did not receive co-teaching training prior the beginning of the school and based on her past experiences, she said that something as small as a video would have been helpful. SE2 feels very strongly that co-teachers should have a getting to know you day and that there needs to be scheduled collaboration time before the start of the school year. SE2 said that the limited amount of professional development offered to co-teachers through the district is lecture based. SE2 would rather observe examples of good co-teaching and thinks co-teachers should be offered professional development on how to collaborate effectively. Additionally, SE2 would like to have time to collaborate with her co-teacher and other co-teaching teams.

Regarding roles and responsibilities in the classroom, SE2 believes that teachers decide which role they want to take based on their personality, workload and comfort level. She agrees with SE1 that co-teachers will take on the roles and responsibilities they feel comfortable with. SE2 also agrees that scheduling plays a role in the amount of responsibility co-teachers take on. Without common planning time, it is difficult for

co-teachers to communicate about splitting responsibilities and then one teacher ends up doing more of the work.

SE2 believes that co-teaching is a good thing but sees challenges with its execution. SE2 sees personality conflicts and a lack of planning time as challenges. She even said that she is willing to take a personality test to ensure she would work well with any future co-teachers. To address a lack of planning time, SE2 recommended that co-teachers should meet up once a week after school for planned collaboration. “Good collaboration takes time but is worth it.”

One of the last questions during the focus group ask if there was anything else the participants wanted to address that may have been missed thus far. SE2 quickly spoke up and asked about administrator training. She does not know how much training they receive in co-teaching and is concerned that they are evaluating teaching about a concept they do not have much knowledge in. SE2 also brought up an interesting issue that relates to technology. The school district uses a program software for lesson planning, gradebook, and class lists. SE2 does not like how the special education students are placed on separate gradebook and separate class list from the general education students. Although the students do not have access to this part of the software, SE2 feels it creates a sense of separation when she is trying to create a classroom of inclusion.

Team three. Team three was the first co-teaching team to volunteer for this study. Team three consists of two teachers who have been working together for five years. At the time when data was collected, they worked together for three periods a day. The classroom where the three inclusion periods are taught contains two desks at the front of the room situated in a way to create a small “office like” area for them. GE3 has

been a teacher for five years and has co-taught with SE3 all five years. SE3 has been a teacher for eight years and has co-taught for eight years. Only the past five years have been with her current co-teacher, GE3. SE3 is not certified in the content area she currently teaches. During interactions with GE3 and SE3, I get the impression that they enjoy teaching together.

Questionnaire. Both GE3 and SE3 attended the initial meeting and both teachers independently completed the CtRS and questionnaire. Although sitting next to each other, they did not appear to share answers. On the questionnaire, GE3 and SE3 had many similarities in their answers. When asked about positive aspects of co-teaching, they both responded with the ability to share ideas with someone. GE3 also responded with having someone to rely on and someone to share classroom responsibilities with. SE3 wrote that different teaching approaches are a positive because the needs of more students can be met. Both SE3 and GE3 said that not always agreeing is a negative aspect of co-teaching. SE3 also said that a lack of planning time is a negative and GE3 said that having a co-teacher can sometimes be a crutch and you can begin to rely too heavily on your partner. Question five asked about factors that impact co-teaching, both GE3 and SE3 responded with personality, content knowledge, and planning time. GE3 also wrote down longevity, meaning the amount of time co-teaching teams are kept together. The next question asked about what could be done to improve co-teaching practices. They both agreed that planning time is a major factor. Additionally, GE3 stated that professional development would improve co-teaching practices. In response to the final question, both GE3 and SE3 stated that planning time is a needed support to be successful as co-teachers. Specifically, SE3 stated that planning time would be used

Table 5

Team Three: Co-teaching Rating Scale Numerical Data for Special Education Teacher (SE) and General Education Teachers (GE)

Components of Effective	SE3	GE3	Average	Stage
Co-teaching				
Interpersonal Communication	9	9	9	Collaborative
Physical Arrangement	9	9	9	Collaborative
Familiarity with Curriculum	7	8	7.5	Collaborative
Curriculum Goals/modifications	9	9	9	Collaborative
Instructional Planning	7	6	6.5	Compromising
Instructional Presentation	9	9	9	Collaborative
Classroom Management	9	9	9	Collaborative
Assessment	9	9	9	Collaborative

for lesson planning and grading. GE3 also stated that professional development would be a good support.

Co-teaching rating scale. Based on the CtRS alone, team three is rated at the collaborative stage. They rated each other at a perfect 9 in six of the eight components, interpersonal communication, physical arrangement, curricular goals and modifications, instructional presentation, classroom management, and assessment. Familiarity with the curriculum was rated as collaborative; however, the mean was 7.5. SE3 is not certified in the content and does not feel as confident in her content knowledge as GE3 does. Both GE3 and SE3 said that SE3 sometimes understands the curriculum in regard to the content. Like other teams, instructional planning was rated the lowest. Team three rated this component at 6.5. They feel that planning is a shared responsibility and is not spontaneous. They rarely make changes to lessons during class periods. SE3 said that

time to plan is usually allotted (or found) when GE3 said there is sometimes common planning time. Team three did not have scheduled planning time the year of data collection.

Observations. Team three has worked together for five years and appear to enjoy working together. GE3 commented during the focus group that she would cry if they gave her a different co-teacher. Only four items were consistently observed done well during the three observations. Both teachers worked in the same space and communicated with each other during lessons, and they both engaged in consistent appropriate behavior management. It was also difficult to distinguish between special education students and general education students. Both SE3 and GE3 travel to different classrooms throughout the day; however, they have both made room 400 their own. For the three periods a day where they co-teacher together, they work in that room. They have set up two desks at the front of the room and both freely utilize the space comfortably. Due to this, they both demonstrate parity and collaboration. There was an attempt made for both teachers staying in the classroom the entire period. During observations two and three, one or both of the co-teachers left the room briefly and returned. During one observation, it appeared that one teacher planned and executed the lesson, during the other two observations; it appeared that both teachers had co-planned and communicated about the lesson and future lessons. During one of the observations, the teachers co-planned future assignments while the students engaged in independent work. During the first observation, it was clear who the special educator was and who the general educator was because the special educator was circulating room offering supports to specific students. However, in the other two observations, an outside

observer would have been unable to tell the difference as they both appeared to share lead roles and responsibilities in the classroom. The use of technology as a means for differentiation was only observed during observation three, an attempt was made. Team three did not regroup students. All lessons were directed to whole class where the teachers either used one teach/one support or both teachers offered support to individual students. During observation two it appeared that both teachers were assisting all students equally; however, during observation three it appeared that SE3 was only helping special education students and GE3 helped only a few general education students. Team three struggles with the “listen for items.” They did a pretty good job at using “we” language. Only during observation two did they use questions and statement to engage all students and only during observation two was a sense of student community heard. During no observation was the use of questioning used to meet the students of all students, all students were asked basic students.

Focus group. Unfortunately, SE3 was unable to attend the focus group. However, GE3 commented on many conversations and regularly spoke about their team during the focus group. GE3 and SE3 have been working together for the past five years. SE3 has been GE3’s only co-teacher. GE3 seems to enjoy co-teaching and the benefits from having another teacher in the room with her. She has help with behavior management, less of a workload, and feels that having two teachers provides balance for the students. However, GE3 did recognize that always having the extra person can at times be used as a crutch. When SE3 is not there GE3 sometimes has a difficult time taking on the roles that SE3 typically holds. She explained how SE3 usually address discipline but when SE3 is not there, GE3 sometimes struggles with behavior

management. Even still, GE3 said that she would be very upset if she had to work with another co-teacher.

GE3 and SE3 have worked together for many years now and GE3 expressed that she wants to improve what they do in the classroom. For the first three years, GE3 and SE3 had common planning time, for the past two years they have not. She attributes a lack in improvement of instructional methods to a lack in planning time. She said that they mostly plan lessons while students are working on independent assignments, during passing time, or during homeroom provided one of them does not have a homeroom that year. GE3 said that she would love to attend professional development with SE3 so that they can learn to implement new things, like the new co-teaching models. GE3 said that it is difficult to implement some of the co-teaching models she knows because of the physical arrangement of the classroom. She said that there is nowhere to take a small group of students except the back of the classroom. When this happens, other students are distracted, and the students being pulled together for additional help cannot focus. A lack of planning time and good professional development also inhibit GE3 from implementing different co-teaching models. By good professional development GE3 means professional development on co-teaching and actually seeing co-teaching models in action. She said that right now they typically follow the same routine, one teaches, and one supports, but she wants to do more.

One other concern GE3 has about co-teaching is parents. She feels that parents do not have a good understanding of what co-teaching is. So, when parents need to be contacted, she and SE3 try to make contact together to clear up any confusion. However,

she feels, and GE4 agrees, that a lack of planning time makes it difficult to display parity to parents.

Team four. Team four has been the co-teaching the longest. They have been co-teaching together for 11 years. GE4 has been a teacher for 14 years and has been a co-teacher for 12 years. SE4 has been a teacher for 33 years and has been a co-teacher for 26 years. In the current year, GE4 and SE4 only teach together for one period a day. SE4 works with one other co-teacher this year. In previous years, they have worked together more periods in a day. Neither GE4 nor SE4 have their own classroom and were teaching their content in some else's classroom. Despite this, both teachers seemed at home in the classroom and treated it as their own. Both teachers moved around the room and utilized classroom materials freely.

Questionnaire. When filling out the questionnaire, GE4 and SE4 sat next to each other and collaborated on their responses. Neither teacher wrote any negative aspects of their co-teaching experience; however, both referred to a good working relationship when responding to positive aspects of their co-teaching experience. GE4 added that they have a system in which they have perfected. In regard to factors that impact co-teaching, both GE4 and SE4 wrote "student dynamics." Question six asked about what can be done to improve co-teaching and question seven asked what supports are needed for co-teachers to be successful. GE4 said that planning time is needed to improve and is also a needed support. GE4 also said that being placed with a compatible co-teacher is a needed support. SE4 said that teachers need to be put together based on their personalities and a willingness to work together. SE4 feels strongly that there is a need for administrative support. This became very apparent during the focus group. During the focus group,

Table 6

Team Four: Co-teaching Rating Scale Numerical Data for Special Education Teacher (SE) and General Education Teachers (GE)

Components of Effective	SE4	GE4	Average	Stage
Co-teaching				
Interpersonal Communication	9	9	9	Collaborative
Physical Arrangement	9	9	9	Collaborative
Familiarity with Curriculum	9	9	9	Collaborative
Curriculum Goals/modifications	9	9	9	Collaborative
Instructional Planning	9	7	8	Collaborative
Instructional Presentation	9	9	9	Collaborative
Classroom Management	9	9	9	Collaborative
Assessment	9	9	9	Collaborative

SE4 shared a story where he asked to be discreetly removed from a particular co-teacher. Instead of making a quiet schedule change, the administration told the other person that SE4 did not want to work with him. This and a few other things described in the focus group influences SE4's opinion on a need for more administrative support.

Co-teaching rating scale. Team four has worked together for 11 years and based on data from the questionnaire, have a system that they have perfected. On the CtRS, team four rated seven of the eight components at a perfect nine. Instructional planning was the only component that was rated slightly lower. GE4 feels that time is sometimes allotted (or found) for common planning time (Gately & Gately, 2001) where SE4 feels that common planning is usually allotted (or found) (Gately & Gately, 2001). When data was taken, SE4 and GE4 did not have scheduled time off together. Therefore, planning

time must have been sometimes or usually found during the day when the teachers should have been working with students or preparing for their next class.

Observations. Team four had very good observations. Seven items were observed well done in every observation. Both teachers were engaged and communicating during the class period. They shared materials and class ran smoothly with evidence of co-planning and communication between teachers. It would also be difficult for an outsider to distinguish between special education students and general education students. For the most part, it was difficult to distinguish between the special education teacher and the general education teacher. During observation one, there was a slight discrepancy between SE4 and GE4 where behavior management was concerned. However, this may have been an act. A student asked SE4 if he could turn in an assignment late. SE4 said it was ok and GE4 responded with, “good thing you asked [SE4] because I would have told you no.” Although this appears to be an inconsistency, GE4’s tone and body language indicated that the statement was enforcing the seriousness of the turning in the assignment not an emphasis on the consequences. During the first and second observation, there was an attempt to use technology to differentiate. Also, during the first and second observations, the only instructional approach was one teach/one support. Only during the third observation did team four regroup the students. During this observation, the students worked on a partner project.

Focus group. SE4 feels that special education and education in general is not what it was 20 years ago. She said that common planning time was once built into their schedules, it is not the case anymore. She also said that she used to receive quite a bit of useful professional development; however, that is not the case anymore. She said that

she gets no support anymore, no professional development and no common planning time. SE4 and GE4 both agree that common planning time is necessary to improve co-teaching practices. The focus group was asked if they would attend a professional development workshop like the one that used to be offered. SE4 and GE4 said that they would not attend because they have worked together for so long that they feel it would not be beneficial; however, they did agree that they would go if the subject matter to be discussed would be useful or if given a new co-teacher. If given a new co-teacher, they both agreed that they would want a “getting to know you day” and time to plan for the upcoming year. SE4 was happy to report that co-teachers know who they are working with when they receive their schedules as opposed to the first day of school. She also said that all students were once listed on one class list. That is not the case anymore. Despite these issues, SE4 believes that no one speaks up about the problems due to a history of co-teachers not being heard and nothing changing.

SE4 was very vocal on her thoughts about the administration at Memorial HS. She said, “administration is the biggest negative towards that process (co-teaching).” She expressed that teachers are put together based on scheduling alone and that administration does not consider personality. Co-teaching partners are paired up based on the number of special education students and that is it. SE4 feels very strongly that co-teaching is like a marriage, it takes time to perfect. In her experience, she has seen good and bad teams and good teams are often spilt apart too soon. SE4 believes that longevity an important factor for success; however, SE4 does not believe administration takes this into account either. She has been a co-teacher for many years and at the beginning, SE4 was asked who she wanted to work with, but she said that does not happen anymore. SE4 shared a

story that showed a lack of administrative support toward co-teaching. Years ago, SE4 asked to be discreetly removed from a co-teaching partnership, she was no longer comfortable working with this person. She expressed her concerns to administration and asked the co-teacher not to know they split because she felt uncomfortable. The administration told her former co-teacher which violated her trust and created a hostile work environment.

Although SE4 expressed a lot of negative comments towards co-teaching, she believes that co-teaching is the “greatest thing since sliced bread.” She likes that there is never a gap in instruction and believes that co-teaching works. SE4 and GE4 have been working together for eleven years. They know each other’s tendencies and often will finish each other’s sentences. They also take care to include both of their names on papers going home and emails to parents. Although they cannot make parent phone class together due to a lack of planning time, they feel that using “we” language helps to create an environment that shows parity between them. SE4 and GE4 say they are like-minded people and have similar teaching philosophies. All of which may add to the success of their co-teaching partnership. In agreement with SE1, SE2, and GE3, SE4 feels that if teachers are not happy working together, it is bad for the students. SE4 believes that you must enjoy what you are teaching and believes that there should more collaboration between teachers and content areas. In her opinion, more cross-curricular collaboration would lead to a lot of positive changes for co-teaching.

Summary. Although each dyad has its own unique set of circumstances, there were some common findings across the subunits. A breakdown of common findings from the teacher focus group and questionnaire can be found on table 3. Co-teachers

were asked to reflect on positive aspects of co-teaching, they responded with equal ownership of students, increased student support, and collaboration to name a few. Collaboration is a very important aspect of co-teaching. Two teachers must work together and jointly create an educational environment that meets the needs of a diverse population of students. General education teachers also said help with classroom responsibilities is a positive aspect of co-teaching.

Often co-teachers can be faced with issues that inhibit the co-teaching process. Co-teachers discussed a lack of planning time, personality differences, and an inability to implement co-teaching models as negative aspects of their co-teaching experience at Memorial HS. Special education teachers also feel that a lack in teacher voice, longevity, and administrative support are negative aspects of co-teaching. Another issue co-teachers face deals with scheduling. Teachers do not receive their master schedule until mid-August. Special education teachers find this troublesome because they often do not know if they are co-teaching and with whom with until two weeks before the start of the school year.

There are many factors that impact co-teaching. Co-teachers at Memorial HS believe that content knowledge and parity are key factors. Sixty-three percent of them also said that personality, teaching styles, and planning time impact co-teaching. Fifty percent of co-teachers agreed that the student population in each classroom impacts co-teaching. How to improve co-teaching practices at Memorial HS was an underlying goal of this study. At Memorial HS, co-teachers feel that increased planning time would help to improve co-teaching practices. All co-teachers in this study feel that they would benefit from planning time either at the beginning of the year and/or throughout the year.

Table 7

Percentage of Agreement for Common Findings for Co-teachers

Common Findings	Number of Co-teachers	Percentage of Co-teachers
Benefits of co-teaching		
Collaboration	6	75%
Equal ownership of students	4	50%
Increased student support	4	50%
Negative aspects of co-teaching		
Lack of common planning time	8	100%
Limitations on implementing co-teaching strategies	5	63%
Lack of training	5	63%
Personality differences	4	50%
Factors that impact co-teaching		
Parity	6	75%
Good partnership	6	75%
Content knowledge	6	75%
Personality	5	63%
Planning time	5	63%
Teaching style/philosophies	5	63%
Student dynamics	4	50%
Improve Practices		
Planning time	8	100%
Co-teaching professional development	6	63%
Desired Professional Development		
Planning day	6	63%
Co-teaching strategies	6	63%

Special education teachers feel that cross-curricular planning would also be helpful. Additionally, co-teachers said that co-teaching practice could be improved through professional development, especially professional development on the implementation of co-teaching models. Fifty percent of the special education teachers also feel that professional development on collaboration strategies would be beneficial.

Co-teaching rating scale. On the CtRS, dyads rated seven out of eight components as collaborative. Figure three displays highly rated components for special education and general education teachers. Special education teachers felt that the strengths of their partnerships were in three of the eight components: interpersonal communication, physical arrangement, and curricular goals and modifications. Special education teachers felt that the strengths of their partnerships were in three of the eight components: interpersonal communication, physical arrangement, and curricular goals and modifications. Each of these components received a perfect nine on the rating scale. They identified instructional planning as an area of weakness receiving a 7.75 rating. Like the special educators, the general education teachers identified instructional planning as an area of weakness rating it at a six. In three of the four teams, the general education teacher rated statement 21 lower the special education teacher. This statement addresses time being allotted or found for planning. Both GE2 and SE2 rated this question as usually, they also have a common prep period unlike teams one, three and four. General educators identified the strengths in their partnerships in physical arrangement and instructional presentation which both receive a perfect rating at nine. Looking at single statements on the CtRS, the dyads said that they usually read non-

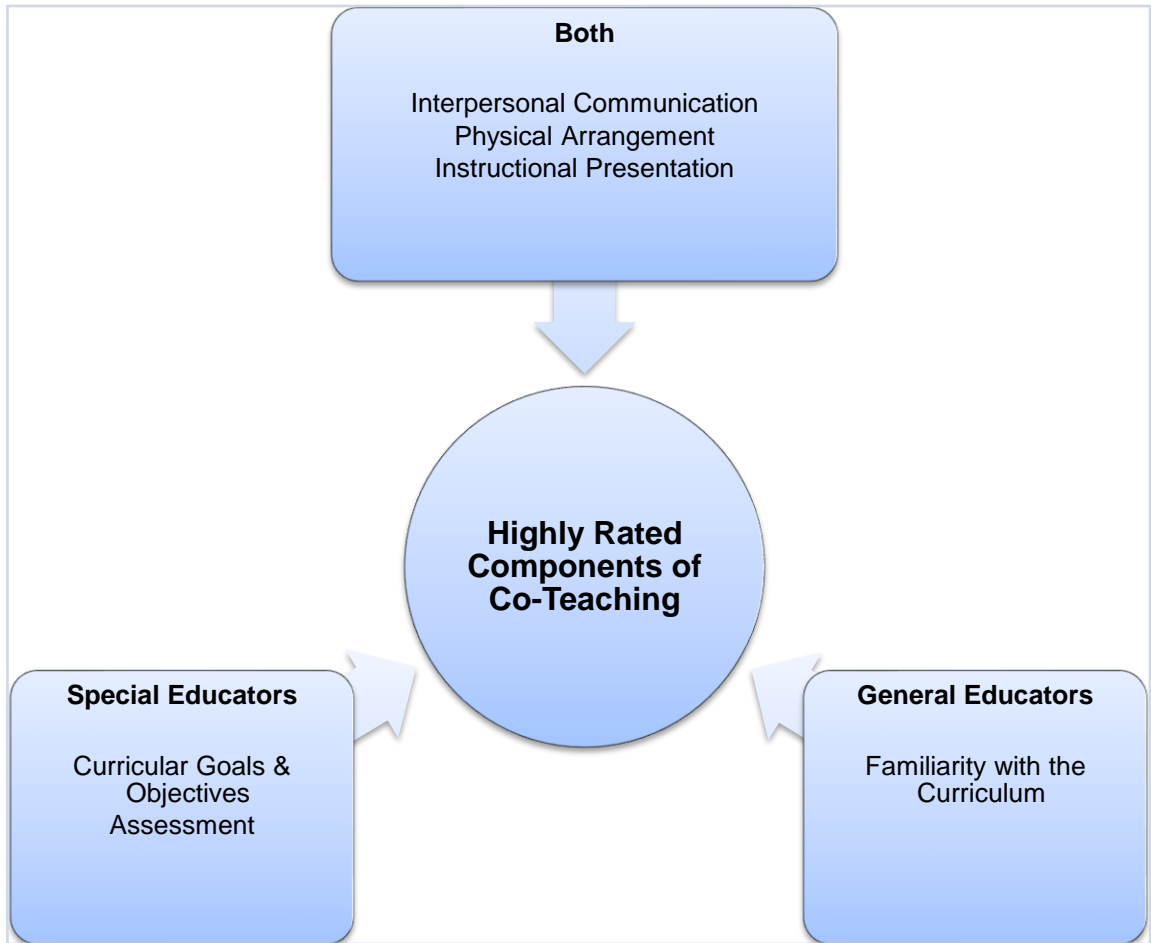


Figure 3. Highly Rated Components. This figure displays components rated highly by special education and general education teachers.

verbal cues, use humor and have open, honest communication. They also said that they usually pass the “chalk freely,” both teachers present lessons and their students accept them both as partners. Additionally, both teachers usually feel comfortable moving around the classroom, maintain fluid positioning in the classroom, and share their materials.

Some discrepancies between the special educators and general educators were found in the components of assessment, curricular goals and modifications, and

familiarity with the curriculum. For the assessment component, questions 16 asked if test modifications were used and question 24 asked if goals and objectives from IEPs were considered as part of grading. For both questions, special educators gave higher ratings than general educators. For the curricular goals and modifications component, question four asked if both teachers agreed on classroom goals. For this question, the special education teachers gave a higher rating. Question 20 asked if student centered objectives are incorporated into the classroom curriculum. For this question, special educators gave a much higher rating than general educators. In the familiarity with the curriculum component, question 19 asked if the special educator has confidence in his or her content knowledge and if the general educator has confidence in the special educator's content knowledge. For this question, the general educators gave higher ratings than the special educators. Three of the special education teachers may feel they do not have a lot of content knowledge because they are teaching in an area other than their college focus. However, general education teachers feel that their co-teachers have a level of knowledge sufficient for the material being taught.

Co-teaching Checklist. Observations for this study offered an inside look at the behaviors of co-teachers in the classroom. Data from the Co-teaching checklist can be found on tables 8 and 9. The most observable item for all teams an observation of the classroom environment. The statement read, "It is difficult to tell the special education students from the general education students" (Murawski & Dieker, 2004). For this, the mean of all teams was a 5.75 out of 6.00. This supports data from the administrator focus group that inclusion of special education students is the biggest positive aspect administrators see regarding co-teaching at Memorial HS. "Two or more professionals

Table 8

Co-teaching Checklist Data by Team (Look for Items)

Items	Team 1	Team 2	Team 3	Team 4	Mean
<i>Look for Items</i>					
Two or more professionals working together in the same physical space.	3	6	6	6	5.25
Class environment demonstrates parity and collaboration.	1	6	6	6	4.75
Both teachers begin and end class together and remain in the room the entire time.	5	6	4	4	4.75
During instruction, both teachers assist students with and without disabilities	5	5	3	6	4.75
The class moves smoothly with evidence of co-planning and communication between co-teachers.	4	6	4	6	4.50
Differentiated strategies, to include technology, are used to meet the range of learning needs.	3	3	1	2	2.25
A variety of instructional approaches used, include regrouping students.	3	0	0	2	1.25
Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	5	5	6	5	5.25
It is difficult to tell the special educator from the general educator.	4	6	4	5	4.75
It is difficult to tell the special education students from the general education students.	5	6	6	6	5.75

Note: Total possible points for item was six.

working together in the same physical space” and “both teachers engaging in appropriate behavior management strategies” (Murawski & Dieker, 2004) both had a mean of 5.25

Table 9

Co-teaching Checklist Data by Team (Listen for Items)

Items	Team 1	Team 2	Team 3	Team 4	Mean
<i>Listen for Items</i>					
Co-teachers use of language demonstrates true collaboration and shared responsibility.	2	6	4	6	4.5
Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	3	5	2	5	3.75
Students' conversations evidence a sense of community.	1	4	2	6	3.25
Co-teachers ask questions at a variety of levels to meet all students' needs.	2	5	0	3	2.50

Note: Total possible points for item was six.

out of 6.00. There were also items that did not earn a high point value. Co-teachers did not ask questions at a variety of levels. This item had a mean of 2.5 out of 6.0. The use of differentiation strategies including technology to meet the range of learning needs had a mean of 2.25 out of 6.00. The item that received the lowest point allotment was the use of a variety of instructional approaches including regrouping of students. This item had a mean of a low 1.25 out of 6.00. This data is reflective of a lack of implementation of co-teaching models that was discussed during both focus groups.

Administrators. Three administrators were very happy to take part in the research study. One of the volunteers was the administrator that requested this research study. The administrators took part in a focus group where they were asked various questions that related to their co-teaching experiences and co-teaching at Memorial HS.

Table 10

Percentage of Agreement for Common Findings for Administrators

Common Findings	Number of Administrators	Percentage of Administrators
Benefits of co-teaching		
Student inclusion	3	100%
Team teaching	2	67%
Factors that impact co-teaching		
Teacher engagement	2	67%
Content knowledge	2	67%
Professional development		
Instructional strategies	2	67%
IEP understanding and implementation	2	67%
Offered Support		
Communication	2	67%
Out of district professional development	2	67%
Co-teacher selection		
Certifications	2	67%
Teacher choice	2	67%

Below is a narrative on the perceptions of co-teaching through the administrative point of view that was gathered during the administrator focus group. AD1 has a background in special education and seems to have a very good understanding on what co-teaching is and what co-teaching looks like at Memorial HS. Over the past few years, Memorial HS has had the opportunity to hire special education teachers that are dual certified in the content area they teach. AD1 feel that this adds to their success. He believes that this is one reason he sees more “truer” team teaching and occasionally alternative teaching.

AD1 enjoys seeing the general education teacher helping a small group of students while the special education teacher teaches the rest of the class. He stated that limited content knowledge leads to special education teachers taking on an aid role which is not what he wants for co-teaching at his school. One thing AD1 seems very proud of, is the fact that an outsider would not be able to distinguish between special education students and general education students. Co-teachers do an excellent job of ensuring complete inclusion of their students and creating an environment where all students are equally attended to.

AD1 supports his co-teachers in many ways, he allows to them to attend any out of district professional development they wish to attend, he encourages open communication, and he listens and asks co-teachers about their needs. Additionally, he places co-teachers in a position to be successful. He makes sure that the co-teachers want to co-teach and enjoy it. He also tries to ensure that co-teachers are teaching the content area of their expertise. AD1 offers co-teachers any support they need and encourages them to go to professional development and to utilize classroom visitations. AD1 believes that teachers are the experts in teaching. He wants his co-teachers to visit other classrooms and utilize the instructional techniques they observe. AD1 seemed to have a sense of pride when talking about co-teaching at Memorial HS and said that the administrators try to support everyone.

AD2 has been an administrator supervising and observing co-teachers for about twenty years. During the focus group, he said that he sees a lot of parity, team teaching and equal give a take between co-teachers. He also said that he is familiar with the class lists and although he knows who is and is not classified, the special education students

are not singled out in class. He frequently sees general education and special education students pulled together for additional support in the classroom. AD2 agreed with AD1 that content knowledge helps special education teachers from becoming gloried aids and that becomes obvious very quickly when the special educator does not know the curriculum. AD2 was very adamant that they “pair for success” meaning they put co-teachers together that will work well together. AD2 says that they try to look at personalities, past experiences and discipline records from the previous year to determine if a team is working well together.

AD1 said that he asks co-teachers what they need. AD2 said that the administrators encourage communication, but co-teachers need to take control of their success and ask for help when needed. AD2 mentioned that Memorial HS used to have a professional development day prior to the start of the school year for co-teachers. He feels that this type of professional development would be good for current co-teachers because it would give them a day to review IEPs, plan classroom policies and procedures, and provide an opportunity for team building. AD2 also feels that general education teachers could benefit from training in differentiation, classroom management, and instructional techniques that special educators learn during college.

AD3 has been an administrator at Memorial HS for the least amount of time compared to AD1 and AD2 and had the least amount to share during the focus group. He did agree with the other two people in the focus group that the special education students are not singled out. AD3 seemed excited that he struggles to distinguish between the special education students and general education students. He feels that it is detrimental to the class and embarrassing when the special education teacher focuses all her efforts

on only the special education students. AD3 did express during the focus group that common planning time is beneficial to any co-teaching team. However, he stated that Memorial HS is at the bare bones for staffing which makes scheduling a challenge. He expressed that Memorial HS is not equipped staff wise to give everyone common planning time. Common planning time is important. Additionally, AD3 feels that co-teachers need training on the utilization of modifications and accommodations in the classroom. He wants teachers to know that it is okay to differentiate and that it is okay to modify the curriculum to meet the needs of all students. Lastly, AD3 felt very strongly that co-teachers need to know their students, all their students, and know how to implement IEPs and give students the best educational opportunities possible.

In summary, the administrators were very attentive during the focus group and offered detailed information regarding co-teaching from their perspectives. The administrators believe that they are supporting their co-teachers by allowing them to attend out of district professional development, pair them for success, and keeping lines of communication open. They understand that their co-teachers should have common planning time but have trouble giving this to them. To improve co-teaching practices, the administrators feel that co-teachers should take advantage of classroom visitations, have professional development in the areas of instructional strategies and team building, and be offered more common planning time.

There were both commonalities and discrepancies between data from administrators and data from co-teachers. They both agree that content knowledge is a factor that impacts co-teaching. Administrators believe that a good team-teaching stems from the content knowledge and certifications of the special education teacher. Both

administrators and special education teachers believe that professional development on instructional strategies would be beneficial to co-teaching. Co-teachers feel that they need more planning time and the administrators agree. Finally, co-teachers want to implement, and administrators want to see more of a variety of co-teaching models.

There were two major areas where co-teachers and administrator did not agree. First and foremost, co-teachers feel that personalities are not considered when selecting co-teachers. They feel that the administration will put people together solely based on the number of special education students they have in each class. When the administrators were questioned about co-teacher selection, they said that they consider content knowledge, personalities, and if a person wants to be a co-teacher. None of the co-teachers said that they were asked if they wanted to co-teach. SE2 said she was not given a choice; just told she would be doing it. These differences in perspectives presents problems for Memorial HS that will need to be addressed.

Answering Research Questions

The purpose of this study was to answer research questions related to the perceptions of co-teachers and administrators on the effectiveness of co-teaching at Memorial HS. It also sought to explore challenges co-teacher perceive as barriers to their effectiveness. The next section will answer each research question.

Research question one. Research question one sought to explore perceptions of co-teaching from the point of view of co-teachers. Co-teachers identified many positive aspects of co-teaching. Sixty-three percent of co-teachers feel that collaboration is a positive aspect of co-teaching. Fifty percent of co-teachers feel that equal ownership of students and increased student support are also positive aspects of co-teaching. Every co-

teacher in the study finds planning time a factor that impacts co-teaching. Right now, they see planning time as negatively impacting co-teaching because they all feel they do not have enough of it. Seventy-five percent of the co-teachers feel that parity, the partnership, and content knowledge also impact co-teaching. Additionally, they believe that personality, teaching style and student dynamics impact co-teaching. To improve co-teaching practices, every co-teacher says planning time would help. Six out of eight co-teachers feel that professional development in co-teaching strategies would be beneficial. Based on data collected, the co-teachers in this study would be more effective with common planning time and training in the implementation of co-teaching models.

Effectiveness in eight components of co-teaching. According to the CtRS, the co-teaching dyads are effective in seven of the eight components of effective co-teaching. Interpersonal communication, physical arrangement, and instructional presentation received a high rating. The only component that was not rated in the collaborative stage was instructional planning. Data obtained through observations and focus group interviews triangulate the rating scale data. Data related to each component is described below.

Interpersonal communication. According to the CtRS, co-teachers in the study are at the collaborative stage for communication. Special educators rated communication at a perfect nine and general educators rated communication at 8.75. According to the CtRS, humor is used in the classroom, co-teachers recognize each other's non-verbal cues and communication is open and honest. Observational data supports their effectiveness in communication. During observations, both teachers were engaged in lessons and communicated regularly throughout the class period. Team four would often finish each

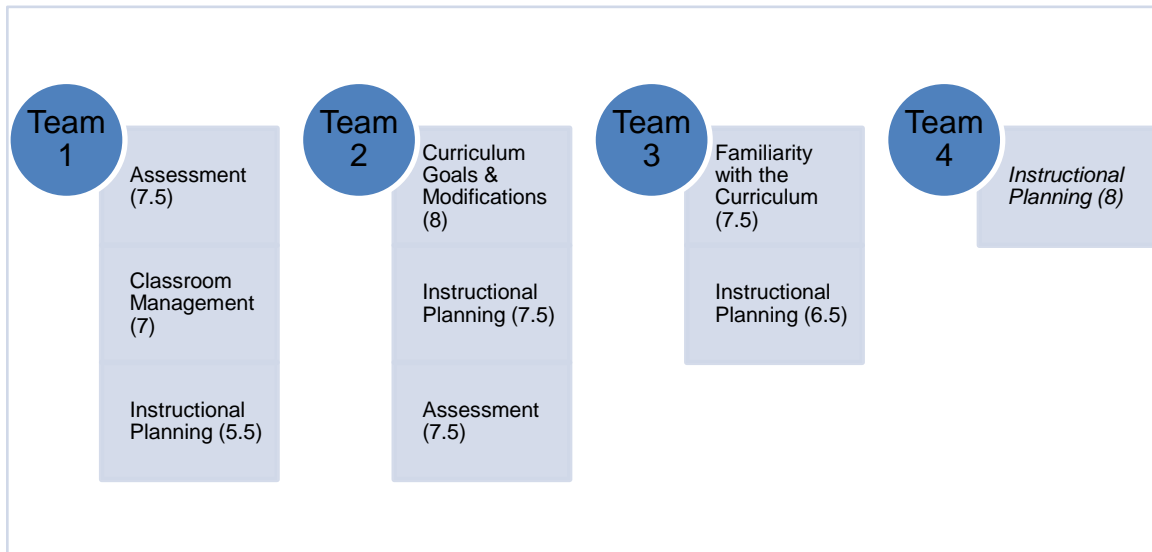


Figure 4. Lowest Rated Components. This figure displays the lowest rated component for each dyad.

other’s sentences. Teams two and four utilized “we” language with ease. This gave the appearance that they collaborate and share responsibilities in the classroom. Team one struggled with the used of “we” language, GE1 would often express information by saying, “I...” instead of “We...” However, they were consistent with classroom procedures and management.

Physical arrangement. The second component, physical arrangement was rated at a perfect nine from both the general and special education teachers of all teachers. Both teachers move freely around the room and share materials. In every observation, both teachers appeared to move around the classroom, each positioning themselves in an area that is conducive for student achievement. The teams all rated that they usually share materials; however, team one did not share materials during the observations and

would not utilize anything on the other person's cart. This was not an issue for the other teams.

Familiarity with the curriculum. Although rated at the collaborative stage, the general education teachers have more confidence in their teammate's content knowledge than the teammate does. Many of the special education teachers are not dual certified in the content area they teach. However, they have taught in their subject area for many years. This limits the potential of the special education teacher taking over an aid type role in the classroom. Since both teachers have a firm understanding of the content, both teachers can take a lead role or a supportive role during instruction. Team three was the only team that did not rate familiarity with curriculum at a perfect nine. SE3 is not dual certified in the content area she teaches. It was sometimes easy to identify the special education teacher from the general education teacher in teams one and three during observations based on which teacher was taking over the content lecture role and which teacher was taking over the support and behavior management role. However, it appeared that both teachers had a firm understanding of the content and both were able to teach and reteach students with ease.

Curriculum goals and modifications. Overall, the co-teachers agree that curriculum goals and modifications are used to assist students. Two of the teams, however, did not agree that student-centered objectives are incorporated into the curriculum. GE1 and GE2 feel that student-centered objectives are not a focus when designing lessons. Individual student objectives and modifications were not observed during any observations. Co-teachers may be instituting individual student objectives and modifications; however, they were not observed.

Instructional planning. Instructional planning was rated at the compromising stage. However, observations did not reflect a lack of planning time. The lessons ran smoothly and were well organized. Question 20 on the CtRS asked if time is allotted (or found) for co-planning. The average answer was “sometimes.” According to the teacher focus group and as evident in observations, co-teachers find time to plan during class periods while students are completing independent work. So, instead of circulating through the room and offering assistance and instruction to students, co-teachers are using that time to co-plan because they do not have common planning time. Team two is the only team that said they usually have time to co-plan, they did not co-plan during the class periods, and has a common prep period they can use for planning unlike other teams.

Instructional presentation. Instructional presentation was rated at the collaborative stage. According to the CtRS, special education teachers often present lessons to the class, both teachers take turns holding the lead teacher role, and students accept both teachers as equals. During observations for each team, both teachers were in the same room and were engaged in the lessons. During team two observations, an outsider would not have been able to identify the special education teacher from the general education teacher as they both took on the lead teacher and supportive teacher roles equally. They were an excellent display of team teaching. They also helped all students equally regardless of classification. For teams one, three, and four, an outside observer may have been able to delineate between the general education teacher and special education teacher based on who was teaching the content in each lesson.

Classroom management. Classroom management was rated within the collaborative stage. Teams two, three and four rated classroom management at a perfect nine. A perfect rating means that the co-teachers jointly develop classroom rules and procedures and they utilize many techniques to engage the students and increase their learning (Gately & Gately, 2001). During observations, various instructional techniques were used, including class lecture, independent practice, and group activities. There was also a strong use of technology in all observations, each team used large flat screen televisions to display PowerPoint presentations. Teams two, three, and four felt that behavior management was a shared responsibility between them. Team one rated classroom management at the collaborative stage; however, it was rated at a seven. Team one felt that behavior management is somewhat one sided and GE1 felt that the rules and classroom procedures were not all developed jointly. During observations, it appeared that both teachers were engaging in behavior management equally and consistently. It can be inferred that the teachers had communicated their expectations to each other and their students at some point in the school year.

An aspect of classroom management that was not specifically mentioned in the CtRS are co-teaching models. This was addressed on the Co-teaching Checklist (Murawski & Dieker, 2004). It asked if a variety of co-teaching models were observed. Co-teaching models like parallel teaching and station teaching were not observed. The administrators also expressed a lack of parallel teaching during the administrator focus group. The most common observed co-teaching models were one-teach/one-support and team teaching. Both models keep students in a large group to receive instruction. Teams one and four regrouped their students for a short amount of time during one observation

each. Whole class instruction was used in all other observations. During the teacher focus group, GE3 expressed a desire to utilize more co-teaching models and would like professional development to learn how to implement them in the high school classroom.

Assessment. Based on the CtRS, this component was also rated in the collaborative stage but was rated the second lowest. All teams agreed that many measures for grading occur in the classroom. During observations, some measures of assessment included, group review activities, quizzes, and classwork assignments. Teams three and four felt that test modifications were used as needed and that goals and objectives for special education students are considered when grading. Team one and GE2 feel that test modifications are sometimes used. GE2 feels that goals and objectives for special education students are rarely considered when assessing them. SE1 and SE2 feel that they always consider the goals and objectives of their special education students. This component seems to be an area of inconsistency for co-teachers at Memorial HS.

Research question two. The administrators at Memorial HS see the utilization of team teaching and the inclusion of special education students as positives in the co-teaching program at their high school. According to AD1, the school has been praised because outsiders are unable to distinguish between special education students and general education students. Even AD3 said that unless he knows the students as having an IEP, he cannot make a distinction between students either. However, they would like to see more of a variety of co-teaching models utilized. During observations, they do not like seeing the special educator taking on an aid role and feel that many factors may play a role in this type of situation. The administrators say they “Pair for Success.” They ensure co-teachers want to co-teach and take personalities into consideration.

Additionally, they feel that content knowledge impacts co-teaching and have been hiring teachers with dual certifications to create “truer team teaching.” The administrators feel that they support their co-teachers by listening to them, having open communication, and allowing them to attend any professional development they desire. When asked, the administrators gave their opinion on the type of professional development that would be most beneficial for co-teachers. They suggested training on accommodations and modifications, team building, and instructional strategies. All in all, the administrators appeared the proudest for their strategy in pairing co-teachers together and the inclusion of special education students in the general education classroom.

Research question three. The co-teachers at Memorial HS have identified challenges they face while engaging in the co-teaching process. Some of these challenges include planning time, scheduling, implementation of co-teaching models, technology, and communication. Many co-teachers at Memorial HS do not have common planning time during the school day or before the start of the school year. They are forced to plan lessons while students are completing independent assignments or in the hallways during passing time. Only one of the four dyads had a period off together that they could utilize for planning. Co-teachers feel that this lack planning time influences roles and responsibilities and a sense of parity. They all expressed a need for common planning time. Administration agrees that planning is a necessity.

Scheduling is another challenge for co-teachers at Memorial HS. Teachers at Memorial HS do not receive their schedules until mid-August. This is when co-teachers definitively find out what they are teaching and whom they are teaching with. Teachers feel that they do not have a voice when it comes to co-teacher selection. They are not

asked if they would like to co-teach, nor is there any type of analysis in determining if two people will work well together. Additional problems arise when two teachers with different teaching styles and non-compatible personalities are forced to work together. This type of situation is bad for students and makes the working relationship difficult. Special education teachers feel they are put together solely based on the number of special education students placed in each section. Co-teachers also feel that the administration cares more about data than the well-being of students and the well-being of their co-teachers. The co-teachers expressed that they have no voice in the school. SE1 was very vocal in saying that when co-teachers speak up about concerns and ask for support, they are ignored. No changes occur and no additional support is offered. What is interesting about this scenario is that the administrators feel that they are very supportive. They allow co-teachers to attend any out of district professional development they request and encourage open communication between themselves and co-teachers.

Another concern co-teachers have is the implementation of co-teaching models. Not all teachers have their own classroom. Veteran general education teachers, many of whom do not teach inclusion, have their own classrooms. Of the four dyads, two general education teachers have their own classroom. Everyone else teaches in someone else's classroom. Many newer teachers and all special education inclusion teachers must travel from room to room each period. This makes implementation of routines, procedures, and co-teaching models challenging. Co-teachers that travel do not have the ability to make a classroom "their own." Many traveling teachers carry their supplies on a cart which they move from room to room. These supplies include everything from that day's assignments to desk supplies to filling bins. This situation can hinder one's ability to

implement solid classroom procedures and create a functional flow to the class period. During the focus group, GE3 admitted that she wants to institute a variety of co-teaching models. However, classroom set-up plays a big role in the ability to utilize models such as station teaching and parallel teaching. Out of respect for other teachers using the same room, co-teachers do not typically change the setup of desks and tables. When a change to the typical set up is made, the tables and desks must be returned to their original position at the end of the period which cuts into instructional time. With the school's push to use every instructional minute, some co-teachers see moving desks around as a waste of time.

Co-teachers at Memorial HS want more training in co-teaching models. They want to see co-teaching in action so they can emulate strategies that work for the student body in inclusion classrooms. About seven years ago, Memorial HS offered a co-teaching workshop towards the end of August. Although the professional development was mostly lecture based, it offered co-teachers an opportunity to meet or get to know each other, learn cooperative teaching techniques, and plan for the year ahead. Unfortunately, the workshop day was funded by a grant that the school no longer holds. At present, co-teachers do not receive any workshops or professional development prior to the start of the school year. Teams are missing the opportunity to communicate their goals and teaching philosophies and to co-plan before the start of the school year. During the school year, there is very limited in-house co-teaching training. Co-teachers can elect to go out of district for professional development and are encouraged to engage in classroom visitations. As AD1 stated, "teachers are the experts." The administration at Memorial HS want co-teachers to observe other co-teaching teams and to utilize

techniques they see. However, unless co-teachers give up their free time, lunch or prep, they must use a comp period to visit a classroom.

Technology is another challenge many co-teachers at Memorial HS try to overcome. Memorial HS uses an online system that can be used for scheduling, class lists, and grade recording. Up until one year ago, a student's schedule would only show one of the inclusion teachers instead of the both. A general education student would have the general education teacher listed and a special education student would have the special education teacher listed. Fortunately, this has changed and now both teachers are listed on the schedule. Teachers are encouraged to use the program to take daily attendance and to report grades. However, class lists and the grade book are separated. Both teachers have access to both lists, nevertheless, there is one list for special education students and one list for general education students. So, unless a teacher independently merges the lists, attendance is taken with two separate lists on the first day of school, one for general education students and one for special education students. When recording grades, teachers must flip between two class lists for one classroom. Co-teachers try very hard to create an inclusive environment but the technology they must use creates a divide.

Communication is an important part of co-teaching (Cook & Friend, 1995; Dieker & Murawski, 2003; Gately & Gately, 2001). For co-teaching to be successful, there must be open and honest communication between co-teachers, administrators, and students (Freytag, 2003). Co-teachers in this study perceive themselves to have effective communication with each other. However, communication between special education teachers and administration seems to be an issue at Memorial HS. During the focus group, many co-teachers spoke about issues in communicating with administrators. SE4

described a time where the administration violated her trust and caused a hostile work environment for her. SE1 brought up numerous times that teachers voice concerns to administrators but nothing changes. SE2 commented that people are afraid to speak up about issues. SE1 mentioned being asked for feedback, but the feedback was not taken into consideration when decisions were being made. A disconnect in the communication process between administrators and co-teachers is a problem that can impact the effectiveness of co-teachers.

Through the questionnaire and teacher focus group, along with the CtRS, a narrative on the perceptions of co-teachers was created. The CtRS, Co-teaching Checklist, and other qualitative data helped determine the effectiveness of co-teaching in each of Gately and Gately's (2001) eight components of effective co-teaching. The administrator focus group built a picture of the perceptions of administrators. Finally, all data sources helped to identify challenges co-teachers face and helped in the creation of recommendations to improve co-teaching practices at Memorial HS.

This chapter organized and discussed the findings from this study. It built a picture of co-teaching and addressed administrative perceptions on co-teaching practices at Memorial HS. It also used data to answer the research questions. The next chapter will discuss how the data relates to previous research and will offer recommendations for future research and for Memorial HS relating to the improvement of co-teaching practices.

Chapter 5

Discussion

The purpose of this study was to explore the perceptions of co-teaching at Memorial HS through the perceptions of co-teachers and administrators. It also sought to explore co-teacher effectiveness in Gately & Gately's (2001) eight components of effective co-teaching. Finally, this study explored challenges co-teachers perceive as barriers to their effectiveness and generated recommendations to improve co-teaching practices at Memorial HS. This case study sought to answer three research questions:

- 1) How do co-teachers at Memorial HS perceive their knowledge of and effectiveness with co-teaching in their current setting?
 - a. How effective are these co-teachers in their current setting based on Gately and Gately's (2001) eight components of effective co-teaching?
- 2) What are the perceptions of administrators at Memorial HS on the effectiveness of co-teaching practices at their school?
- 3) What challenges do co-teachers at Memorial HS perceive as barriers to their effectiveness as co-teachers?

In answering the research questions, the perceptions on co-teaching at Memorial HS from the perspective of co-teachers and administrators were explored. Additionally, challenges co-teachers face at Memorial HS were explored.

Chapter two outlined pertinent literature related to the history of co-teaching, Gately and Gately's (2001) eight components of effective co-teaching, and the benefits of using co-teaching as an instructional strategy. Chapter three discussed the location and participants of the study as well as data collection techniques. The data collected in this

study was detailed in chapter four. This chapter, chapter five, will explain how the findings relate to literature and Memorial HS. This chapter will also make recommendations for Memorial High School and future researchers related to the improvement of co-teaching practices.

Co-teachers' Perceptions of Co-Teaching

The most frequent finding that resonated throughout the data was planning time. Sixty-three percent of co-teachers believe that planning time impacts co-teaching. Specially, SE1 feels that planning directly impacts the roles and responsibilities co-teachers take on including lesson planning. Three of the four dyads do not have common planning time scheduled into their day. Team one says that they have never had common time in the three years they have been working together. During observations collaboration, the use of “we” language, and classroom community (Walthers-Thomas, 1997) were not regularly observed. This can be compared to team two that has had scheduled planning time. Team two demonstrated excellent collaboration, showed parity, and used “we” language with ease. Every item, with the exception of regrouping strategies, was observed more for team two than team one. This data suggests that planning time may play a bigger role in co-teaching success than simply extra time to write lesson plans.

Increased planning time offers the opportunity for co-teachers to better collaborate. Collaboration is one benefit of co-teaching (Cook & Friend, 1991a; Hourcade & Bauwens, 2001). Seventy-five percent of the co-teachers in this study enjoy having someone to share ideas, classroom duties, and instructional presentation with. Fifty percent of the special education teachers and one of the administrators feel that co-

teachers would benefit from training in collaboration techniques. Parity is seen as an important aspect of co-teaching for 75% of co-teachers at Memorial HS and is a big component of collaboration (Gately & Gately, 2001). Parity can be demonstrated by both teachers sharing materials, changing roles, and engaging in regular communication with each other and their students. Interpersonal communication, physical arrangement, and instructional presentation, components of effective co-teaching (Gately & Gately, 2001), all relate to parity. Co-teachers in this study rated each of those three components the highest. This data suggests that parity can be observed from co-teaching teams. During observations, most of the items related to these components were regularly observed from the dyads.

A lack of regrouping strategies was seen during observations. Most co-teachers were observed using either team teaching or one-teach/one-support as instructional models (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). This was an interesting finding; however, it was supported by data from the administrator focus group. The administrators said that they like seeing team teaching in the classrooms but would like to see more of a variety in co-teaching models. Since each co-teaching model requires different levels of participation (Solis, Vaughn, Swanson, & McCulley, 2012) planning time may be a contributing factor. Sixty-three percent of the co-teachers feel that they are lacking training and are finding limitations in practicing different co-teaching models. Many of the co-teachers in this study feel that they would benefit from professional development in the implementation of co-teaching models. More specifically, 50% of them want to see co-teaching in action. GE1, the newest co-teacher of the dyads, said, “You can’t model, what you haven’t seen.”

Table 11

Co-teaching Rating Scale Numerical Data for Special Education Teachers (SE) and General Education Teachers (GE)

Components of Effective Co-teaching	SE	GE	Average	Stage
Interpersonal Communication	9	8.75	8.86	Collaborative
Physical Arrangement	9	9	9	Collaborative
Familiarity with Curriculum	8.5	8.75	8.63	Collaborative
Curriculum Goals/modifications	9	8	8.5	Collaborative
Instructional Planning	7.75	6	6.9	Compromising
Instructional Presentation	8.75	9	8.86	Collaborative
Classroom Management	8.5	8.5	8.5	Collaborative
Assessment	8.75	7.75	8.25	Collaborative

Note: SE stands for special education teacher, GE stands general education teacher

Co-teachers at Memorial HS feel that planning time is one of the biggest factors that impacts co-teaching. Collaboration and the implementation of co-teaching models seem to be affected by a planning time. An increase in planning time and the addition of professional development on collaboration and co-teaching strategies could lead to positive changes for co-teachers at Memorial HS.

Effectiveness in Eight Components of Co-Teaching

Co-teachers rated themselves at the collaborative stage for seven out of eight components. Instructional planning is the component where co-teachers rated themselves the lowest. According to Friend (2011), co-planning is a vital part of co-teaching. Studies have shown that common planning is a necessity for co-teaching to be effective

Table 12

Co-teaching Rating Scale by Team

Components of Effective Co-teaching	Team 1	Team 2	Team 3	Team 4	Average
Interpersonal Communication	8.5	9	9	9	8.88
Physical Arrangement	9	9	9	9	9.00
Familiarity with Curriculum	9	9	7.5	9	8.62
Curriculum	8	8	9	9	8.50
Goals/modifications					
Instructional Planning	5.5*	7.5	6.5*	9	7.13
Instructional Presentation	9	8.5	9	9	8.88
Classroom Management	7	9	9	9	8.50
Assessment	7.5	7.5	9	9	8.25

Note: * denotes compromising stage

(Austin, 2001; Gately & Gately, 2001; Hourcade & Bauwens, 2001; Murawski & Dieker, 2004; Nierengarten, 2013; Scruggs, Mastropieri, & McDuffie, 2007; Sileo & van Garderen, 2010). Takacs (2005) found that planning time impacts the success of co-teaching. Dieker (2001), Gately & Gately (2001) and Walther-Thomas and Bryant (1996) all agree that a lack of common planning is an issue for co-teachers. This study supports that claim. The co-teachers at Memorial HS struggle with common planning time which could be impacting their effectiveness. Co-teachers will need common planning time and will need to utilize common planning time effectively. Co-teachers at Memorial HS have requested more planning time. Additionally, planning routines will help ease the process (Ploessel, Rock, Schoenfeld & Blanks, 2010; Scruggs & Mastropieri, 2017; Walthers-Thomas, Bryant & Land, 1996) and encourage co-teachers

to better utilize co-teaching models and ultimately increase student success (Abbye-Taylor, 2013).

Although rated at the collaborative stage, the assessment component (Gately & Gately, 2001) was rated lower than most other components. In teams one and two the general educator rated this component lower than the special education teacher. For Gately and Gately (2001), assessment includes the development, implementation, and evaluation of assessments. On the CtRS, SE1, GE1, and GE2 did not feel that test modifications were commonplace. Additionally, GE1 and GE2 do not feel as though assessments are created with student goals and objectives in mind. Gately & Gately (2001) believe that it is essential for effective co-teachers to create assessments that focus on content and student objectives simultaneously. For teams one and two and possibly other co-teaching teams not participating in this study, assessments are an area that should be addressed.

Administrators' Perceptions of Co-Teaching

One common finding was the inclusion of students with disabilities. The administrators at Memorial HS feel that this is an area where co-teachers excel. They said that outsiders cannot distinguish between special education and general education students. This was true during most observations as well. Special education students were dispersed throughout the classroom and it was difficult to tell which students were classified. The administrators in this study feel that they have contributed to the successes of co-teaching at Memorial HS. Through hiring co-teachers with dual certifications, they feel that they see more authentic team teaching and a more equal distribution of roles.

Many studies have stressed the need for administrative support in co-teaching (Bauwens & Hourcade, 1995; Scruggs & Mastropieri, & McDuffie, 2007; Wilson, Woolfson, Durkin, & Elliot, 2016). Administrators can offer support by scheduling common planning time (Walthers-Thomas, Bryant, & Land, 1996). In this study, as in Smith (2012) administrators recognize the need for common planning time and said they try to give as many co-teachers as they can scheduled planning time.

To improve co-teaching practices, administrators at Memorial HS feel that co-teachers need training on the implementation of differentiation, modifications and accommodations to better meet the needs of all students. This was also found in Abbye-Taylor (2013). The administrators also feel that professional development and planning time will improve co-teaching practices (Austin, 2001; Scruggs, Mastropieri, & McDuffie, 2007). They feel that co-teachers should have co-planning time at the beginning of the school year to review IEPs, and co-plan in preparation for the school year.

Challenges Co-Teachers Perceive as Barriers to Their Effectiveness

Throughout the data, two major issues kept resurfacing, planning time and the implementation of co-teaching models. Most of the co-teachers feel that they do not have enough scheduled planning time. They are forced to use class time and passing time for co-planning. The lack of planning time may be impacting instructional delivery as well (Friend & Reising, 1993; Stokes, 2014). Co-teachers at Memorial HS most often use one teach-one support (Cook & Friend, 1995) which is not viewed as true co-teaching by all (Murawski, 2019).

The use of co-teaching models resonated throughout the data. Data from the Co-teaching Checklist showed that whole group instruction was typical for co-teachers. Teaching to the whole group does not meet the needs of all students; however, creating small group lessons that address the individual needs of students takes time (Dyke, Sundbye, & Pemberton, 1997). Administrators like seeing team teaching but want to see more of a variety of co-teaching models. Co-teachers in this study expressed that they want to use different co-teaching models but face issues when trying to implement them.

Planning time is crucial to the implementation of successful co-teaching, especially when implementing regrouping strategies. Without enough planning time, the special education teacher often takes the role of an aid and regrouping strategies are not used (Friend & Reising, 1993). In Stokes (2014) co-teachers indicated that a lack of planning time impacts the co-teaching model they use. Co-teachers need common planning time (Friend & Reising, 1993). This has been an issue for many co-teachers throughout the literature (Gately & Gately, 2001; Stokes, 2014; Walther-Thomas & Bryant, 1996) and is an issue for the co-teachers in this study.

Aside from planning time, the use of regrouping strategies may also be affected by a lack of training on the implementation of multiple co-teaching models. The co-teachers in this study expressed that they want to see co-teaching in action so that they can use more strategies in the classroom. Takacs (2005) and Smith (2012) found similar results. There has been limited training in the implementation of co-teaching strategies for co-teachers (Scruggs, Mastropieri, & McDuffie, 2007; Dieker & Murawski, 2003) but is a necessity because the pedagogy of co-teaching is very different than the pedagogy of teaching alone (Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010).

A final barrier to the implementation of regrouping models for co-teachers may also be the physical space in which they teach. Friend & Reising (1993) said that co-teachers need planning time and space to execute a variety of co-teaching models. During the focus group, GE3 expressed concern with implementing some co-teaching models because she doesn't know where small groups of students should go (Cook & Friend, 1995). Classrooms must be large enough to place students in individual groups and give both teachers space to simultaneously instruct (Fitzell, 2018). A lack of planning time was an issue addressed through many data sources in this study. Co-teachers say that they do not have enough planning time and administrators agree that they need planning time (Abbye-Taylor, 2013). Cook and Friend (1995) state that administrators must give co-teachers planning so that they can be successful.

Implications and Recommendations

For co-teachers. Based on the CtRS, the co-teachers at Memorial HS are not effective at instructional planning. Data from the questionnaire and focus groups show that co-teachers would be more effective with more planning time. I recommend co-teachers be given at least one day prior to the start of the school year for planning, especially for new teams. The co-teachers in this study felt that it is very important for new teams to have a day to discuss teaching styles and classroom procedures prior to the start of the school year. During this professional development day, co-teachers will also engage in focused planning activities to learn how to utilize their limited planning time wisely during the school year (Abbye-Taylor, 2013). Co-teachers should create a planning protocol (Ploessel, Rock, Schoenfeld & Blanks, 2010) to help them increase their effectiveness in planning throughout the year.

Co-teachers should receive professional development throughout the year. Professional development should include productive talk (Ploessel, Rock, Schoenfeld & Blanks, 2010), unit planning, and student needs. Additionally, co-teachers need professional development on how to implement a variety of co-teaching models (Scruggs, Mastropieri, & McDuffie, 2007). During the observations of three teams, there was limited use of questioning techniques meant to reach the diverse academic needs of students. For effective co-teaching, it is important that co-teachers modify the curriculum to meet the needs of all learners (Gately & Gately, 2001). Questioning techniques such as this differentiates based on a student's academic ability (Tomlinson, 2014). Training in differentiation was suggested by AD3 and supported by data from the observations. I recommend that co-teachers receive training in differentiation strategies including the use of questioning techniques.

During the teacher focus group co-teachers requested to see co-teaching in action. Since the administration encourages classroom visitations, the co-teachers should be allowed to visit other co-teachers in the school without penalty. I recommend they be allowed to engage in at least three classroom visitations a year without having to give up their lunch or prep period to observe exemplar teams. Allowing co-teachers to watch others in the school without penalty will increase the perception of administrative support and fulfill a desire to see co-teaching in action.

Another area where co-teachers may need professional development is assessment. Although co-teachers use multiple sources for assessment, typical classroom assessments are not always geared towards measuring within a student's strength. Professional development can focus on identifying and assessing students based on their

strengths. For example, if a student is a poor test taker, in what other way can that student's knowledge be assessed? Assessments can take the form of observations, projects, and presentations (Powers, 1997). Collectively, co-teachers need time to plan and evaluate how to assess students on curricular goals as well as individual goals using multiple techniques.

Lastly, SE2 stated in her questionnaire that she would like training in Spanish. The Hispanic population at Memorial HS is growing and many Spanish speaking students, regardless of their intellect, are placed in inclusion classrooms. This is done to increase student support. However, due to the language barrier, these students are not receiving all the benefits of being in a co-taught classroom. SE2 feels, and I agree, that training in Spanish will help meet the needs of those students.

An interesting finding arose during observations. Conversations between teachers and students and students with their peers in the classroom is an important part of co-teaching (Murawski & Lochner, 2011). Using targeted questions and statements increases a sense of community within the classroom. This is an area where two of the four teams struggled. Creating a classroom community is important for the success of co-teaching (Walthers-Thomas, 1997) and is an area that needs additional attention.

For administrators. Data shows that there is a disconnect in the perception of administrative support offered to co-teachers. Administrators can show support to their co-teachers by scheduling common planning time (Walthers-Thomas, Bryant, & Land, 1996), maintaining co-teacher partnerships, and participating in trainings (Cook & Friend, 1995). Murawski (2019) believes that administrators should provide professional development, have teachers volunteer to co-teach, and provide common planning time.

The administration feels they are offering their co-teachers all possible supports except common planning time for some co-teaching dyads. Conversely, co-teachers do not feel supported by the administration at all. Not all co-teachers are offered common planning time even though study after study stresses its necessity (Cook & Friend, 1995; Friend & Reising, 1993; Hang & Rabren, 2009; Murawski & Dieker, 2004; Walthers-Thomas, 1997). Additionally, co-teachers are not offered in district training on co-teaching strategies that would benefit their co-teaching practices.

There is a disconnect between the level of support co-teachers feel they receive, and the level of support administrators say they give. With administrative support being a big factor in the co-teaching process (Cook & Friend, 1995), this is an area worth discussion. Scheduling common planning time is one way to bridge that gap. However, data from this study suggest that co-teachers may need more. Special education teachers expressed a history laced with a lack of teacher voice in decision making processes related to their field. I recommend that at least one of the principals from the high school attend the monthly special education department meeting. This action will show an increase in support for special education teachers. It will also give co-teachers the opportunity to engage in meaningful conversation related to issues of special education and co-teaching. I also recommend that administrators attend professional development on co-teaching strategies with co-teachers (Cook & Friend, 1995).

The two biggest challenges co-teachers at Memorial HS face are a lack of planning time and an inability to implement a variety of co-teaching models. Cook & Friend (1995) stated that administrators must give co-teachers common planning time. The administrators in this study explained that do not like seeing special education

teachers taking on an “aid” role. However, that is a common result of co-teachers not having common planning time (Friend & Reising, 1993). To ensure co-teachers are using more co-teaching models and getting time to co-plan, I recommend that it be mandatory to give co-teachers at least one period off together each day.

Another common issue in co-teaching is longevity (Abbye-Taylor, 2013; Walthers-Thomas, Bryant, & Land, 1996). Co-teaching is like a marriage. It takes time for the relationship between co-teachers to develop and become one of true collaboration (Murawski, 2019; Walthers-Thomas, Bryant, & Land, 1996). Three of the special education teachers in this study expressed a need for longevity. I recommend that co-teaching partners remain together for at least three years and longer if the partnership is working (Abbye-Taylor, 2013).

The administrators at Memorial HS say that they take on a “pair for success” mentality when matching up co-teachers. They place teachers together based on content knowledge, personality, and a desire to co-teach. Out of the four dyads that participated in this study, they all felt that they have a good co-teaching partnership. Content knowledge, personality and desire to teach were all mentioned by co-teachers as factors that impact co-teaching as well. As administrators in other districts are scheduling new teams, they should follow a similar protocol. Co-teachers must volunteer to co-teach (Murawski, 2019), have content knowledge in the area they will be teaching (Dieker & Murawski, 2003), and have personalities that click (Abbye-Taylor, 2013). Following a protocol such as this will help move co-teachers closer to the collaborative stage of their relationship (Gately & Gately, 2001).

For education. Studies have stressed the importance of content knowledge for special education teachers (Abbye-Taylor, 2013; Dieker & Murawski, 2003; Fullan & Hargreaves, 1997). This study recognized content knowledge as a factor that impacts special education. Additionally, three of the co-teachers were not content certified in the area they currently co-teach. In recent years, special education teachers must receive a dual certification in a content area. Hence, the administration at Memorial HS said that they have been hiring dual certified special education teachers and placing them in their content area for co-teaching. One of the special education participants, SE2, is dual certified and was hired to teach in her content area. She and her co-teacher displayed an excellent example of team-teaching during observations and in a few years have reached a level of classroom community (Walther-Thomas, 1997) comparable to team four, who has worked together three times longer. Classroom community refers to creating an inclusive, communicative classroom where all students feel included as part of the working system (Walther-Thomas, 1997). It may be an unintended consequence that content knowledge speeds progress through the stages of co-teaching (Gately & Gately, 2001). If there is a correlation between stages of co-teaching and content knowledge, it would encourage more districts to place special education teachers in their content area. This is an area that requires more research.

Co-teaching benefits all students (Manset & Semmel, 1997; Scruggs, Mastropieri, & McDuffie, 2007; Weichel-Murawski & Swanson, 2001). Co-teaching needs to be viewed as an instructional method that reaches the needs of at-risk students and an instructional method that increases the academic and social success of all students. If struggling learners require support in core content areas, then they should be given these

supports in elective courses as well. If co-teaching were also utilized in electives, students across the board would benefit from all that comes with it.

Future research. Co-teaching must be evaluated (Austin, 2001). Use of the CtRS is beneficial but should not be used alone. VanGraafeiland also found this to be true (2002). In future research, the CtRS can be used as a starting point; however, interviews or focus groups along with observations need to be utilized to gain a deeper understanding and better overall picture of the effectiveness of co-teaching teams.

Co-teachers in this study suggested that planning time impacts the roles and responsibilities in which each co-teacher takes on. I recommend research to be done to identify how planning time influences these decisions. Research should also be done to see specifically what areas of co-teaching are impacted by planning time or a lack thereof. If schools are having issues scheduling planning time like Memorial HS, it would be important to know what areas of co-teaching are suffering. Then a plan can be developed to compensate for minimal planning time and still allow co-teachers to be effective.

Planning time also impacts the instructional models' co-teachers chose to implement (Friend & Reising, 1993). If co-teachers were given sufficient planning time, what co-teaching models would deliver the best results? Research to identify which instructional models have the greatest impact on student success socially and academically is needed. Co-taught classrooms at the high school level are educating some of the most at-risk students. It would be beneficial for co-teachers to know what type of instructional models would give these students the most support.

In this study and Abby-Taylor (2013), it was suggested that co-teachers with compatible personalities be matched together. More research should be done in this area.

What role do personality traits or personality types play in the building of co-teacher relationships and collaboration? How do personalities impact co-teaching for teachers and for students? Administrators and co-teachers would be benefited to know how and if personalities impact co-teaching and the co-teacher relationships. This information could help administrators better pair co-teachers for success.

Limitations

Although this study produced a lot of rich data, it did have some limitations. Sample size was a limitation in this study. Only four co-teaching dyads participated in the study. A lack of participation may have come from the time of year the study began or the influx of new co-teachers Memorial HS experienced the year in which data was collected. More participation would have created a bigger more in-depth picture of co-teaching at the high school.

Co-teachers completed the CtRS which uses three options to respond to statements; rarely, sometimes, and usually. In this study, the co-teachers rated themselves as collaborative in almost every component. Giving co-teachers more response options like *never* and *always* may have provided a better range of responses and better data. Additionally, co-teachers were asked to complete the CtRS and questionnaire at one general meeting. Many of them were sitting next to their co-teachers. This may have created an uncomfortable situation for co-teachers and their responses may not have been as honest as they truly felt.

Focus groups were chosen as a method for data collection; however, individual interviews may have allowed for more in-depth personalized conversation relating to each dyad and administrator. It is also possible that participants either chose not to speak

up during the focus group due to the personalities in the group. Also, it is possible that co-teachers and administrators engaged in collective responses or group think which may have altered that data.

Another limitation of this study was the inclusion of students as participants. This study did not gather information to identify the perception of students on co-teaching. Nor did the study look at student success or achievement in co-taught classrooms. How students are impacted based on co-teaching practices was not considered.

Finally, the foundation for this study came from a request to generate recommendations for professional development on co-teaching at Memorial HS. In each step of data collection, I was looking for areas that would benefit from professional development. Collecting and analyzing data under this lens may have impacted the data. Despite the limitations, this study produced a lot of rich data and created a well-rounded picture of co-teaching at Memorial HS.

Conclusion

This study explored co-teaching through the perceptions of co-teachers and administrators at Memorial HS. It also sought to explore co-teacher effectiveness based on Gately & Gately's (2001) eight components of effective co-teaching. Finally, the goal of this study was to explore challenges co-teachers at Memorial HS face that they feel may be barriers to their co-teaching effectiveness. This study explored the perceptions of four co-teaching dyads and three administrators at a large suburban high school and resulted in an in-depth picture of co-teaching at Memorial HS and recommendations to improve co-teaching practices.

Through this exploration, it was found that co-teachers at Memorial HS are effective in seven of eight components of effective co-teaching (Gately & Gately, 2001). They have not yet reached the collaborative stage for instructional planning. This may be due to a lack of common planning time. Another possible consequence of common planning time is the implementation of a variety of co-teaching models. Limited planning time leads to a lack of regrouping strategies (Friend & Reising, 2017) which was supported in this study. During observations, co-teachers were observed using mostly whole group instruction which does not meet the needs of all students (Dyke, Sundbye & Pemberton, 1997). To resolve these two main issues, it is recommended that co-teachers receive a professional development prior to the start of the school year as well as scheduled planning time each day. Additionally, as requested by some of the participants, professional development on co-teaching strategies is recommended. This study explored co-teaching at Memorial HS and presented recommendations to improve co-teaching practices. However, future exploration on the effectiveness of co-teaching and student success is still needed.

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Appendix A

Administrative Focus Group Protocol

Hello and welcome. Thank you for coming to this focus group interview today. This study is looking explore co-teaching at the high school and determine areas where co-teachers will benefit from professional development. You have been asked to be a part of this study because you are all administrators that oversee co-teaching at this school. As a reminder, all information given in this interview will remain confidential. Pseudonyms will be used in any publication related to this study. Additionally, participation is voluntary, and you may remove yourself from this study at any time.

Do you have any questions regarding this study or your involvement in this study?

May I have permission to voice record this interview?

If yes: Turn on the voice recorder.

If no: I will only take notes.

I would like to begin with a general question about co-teaching.

1. What has been your experience with co-teaching (Takacs, 2015)?

As an administrator, you must conduct observations and walkthroughs.

2. How often do you observe or walk through co-taught inclusion classrooms?
3. During observations, what would you describe as positive (Feutsel, 2015)?
(Please, do not mention the names of any specific teachers.)
4. During observations, what would you describe as negative (Feutsel, 2015)? *(Please, do not mention the names of any specific teachers.)*

5. During observations, do you sense an equal distribution of roles and responsibilities between co-teachers (adapted from Murawski & Lochner, 2011)?

Researchers suggest that administrators play a role in the effectiveness or success of co-teachers. I am going to ask a few questions regarding your role.

6. How does the administration select co-teachers (Tackas, 2015)?
7. How do you or the school district support co-teaching teachers and classrooms (Tackas, 2015)? [professional development, common planning time, maintaining teams]
8. What could be done to improve the inclusive practices in co-taught classrooms (Feutsel, 2015)?

Thank you for participating. You all have given me a lot of good data that will be very useful for this study.

9. Is there anything else you would like to discuss that I may have overlooked (Tackas, 2015)?

Appendix B

Administrator Protocol Question Matrix

The question matrices used in this study follow a model presented by Castillo-Montoya (2016). She suggests the use of a question matrix to ensure alignment between interview questions and research questions.

<u>Question</u>	<u>Type</u>	<u>Background Information</u>	<u>Research Question 1</u>	<u>Research Question 2</u>	<u>Research Question 3</u>
1.	Introduction	X			
2.	Transition	X		X	
3.	Key			X	
4.	Key			X	
5.	Key	X		X	X
6.	Transition			X	
7.	Key			X	
8.	Key			X	X
9.	Key			X	X
10.	Closure	X		X	X

Appendix C

Co-teaching Rating Scale and Questionnaire

Co-teaching Rating Scale (Gately & Gately, 2001)

Special Education Teacher Format

<i>Respond to each question by circling the number that best describes your viewpoint:</i>	Rarely	Sometimes	Usually
1. I can easily read the nonverbal cues of my co-teaching partner.	1	2	3
2. I feel comfortable moving freely about the space in the co-taught classroom.	1	2	3
3. I understand the curriculum standards with respect to the content area(s) in the co-taught classroom.	1	2	3
4. Both teachers in the co-taught classroom agree on the goals of the co-taught classroom.	1	2	3
5. Planning is spontaneous, with changes possibly occurring during the instructional lesson.	1	2	3
6. I often present lessons in the co-taught classroom.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. I am familiar with the methods and materials with respect to the content area(s).	1	2	3
12. Modifications of goals for students with special needs are incorporated into the class.	1	2	3
13. Planning for classes is the shared responsibility of both	1	2	3

teachers.			
14. The “chalk” passes freely between two teachers during lessons.	1	2	3
15. A variety of classroom management techniques is used to enhance learning of all students.	1	2	3
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I feel confident in my knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the classroom curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

Co-teacher Questionnaire

1. What content area(s) do you currently co-teach (King-Sears, Brawand, Jenkins, & Preston-Smith, 2014)? _____

2. Write the number of (King-Sears, Brawand, Jenkins, & Preston-Smith, 2014)
 - a. Years of teaching experience: _____
 - b. Years as a co-teacher: _____
 - c. Years with your current co-teacher: _____
 - d. Number of class periods you co-teach with that teacher: _____

3. In what ways would you describe your co-teaching experience as positive (Feutsel, 2015)?

4. In what ways would you describe your co-teaching experience as negative (Feutsel, 2015)?

5. What factors impact co-teaching (Takacs, 2015)?

6. What could be done to improve the inclusive practices in a co-taught classroom (Feutsel, 2015)?

7. What kinds of supports do you think you might need to succeed teaching in co-taught classes (Feutsel, 2015)?

Co-teaching Rating Scale (Gately & Gately, 2001)

General Education Teacher Format

<i>Respond to each question by circling the number that describes your viewpoint:</i>	Rarely	Sometimes	Usually
1. I can easily read the nonverbal cues of my co-teaching partner.	1	2	3
2. Both teachers move freely about the space in the co-taught classroom.	1	2	3
3. My co-teacher understands the curriculum standards with respect to the content area(s) in the co-taught classroom.	1	2	3
4. Both teachers in the co-taught classroom agree on the goals of the co-taught classroom.	1	2	3
5. Planning is spontaneous, with changes possibly occurring during the instructional lesson.	1	2	3
6. My co-teaching partner often presents lessons in the co-taught classroom.	1	2	3
7. Classroom rules and routines have been jointly developed.	1	2	3
8. Many measures are used for grading students.	1	2	3
9. Humor is often used in the classroom.	1	2	3
10. All materials are shared in the classroom.	1	2	3
11. The special educator familiar with the methods and materials with respect to the content area(s).	1	2	3
12. Modifications of goals for students with special needs are incorporated into the class.	1	2	3
13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The “chalk” passes freely between two teachers during lessons.	1	2	3
15. A variety of classroom management techniques is used to enhance	1	2	3

learning of all students.			
16. Test modifications are commonplace.	1	2	3
17. Communication is open and honest.	1	2	3
18. There is fluid positioning of teachers in the classroom.	1	2	3
19. I am confident of the special educator's knowledge of the curriculum content.	1	2	3
20. Student-centered objectives are incorporated into the classroom curriculum.	1	2	3
21. Time is allotted (or found) for common planning.	1	2	3
22. Students accept both teachers as equal partners in the learning process.	1	2	3
23. Behavior management is the shared responsibility of both teachers.	1	2	3
24. Goals and objectives in IEPs are considered as part of the grading for students with special needs.	1	2	3

Co-teacher Questionnaire

1. What content area(s) do you currently co-teach (King-Sears, Brawand, Jenkins, & Preston-Smith, 2014)? _____

2. Write the number of (King-Sears, Brawand, Jenkins, & Preston-Smith, 2014)
 - a. Years of teaching experience: _____
 - b. Years as a co-teacher: _____
 - c. Years with your current co-teacher: _____
 - d. Number of class periods you co-teach with that teacher: _____

3. In what ways would you describe your co-teaching experience as positive (Feutsel, 2015)?

4. In what ways would you describe your co-teaching experience as negative (Feutsel, 2015)?

5. What factors impact co-teaching (Takacs, 2015)?

6. What could be done to improve the inclusive practices in a co-taught classroom (Feutsel, 2015)?

7. What kinds of supports do you think you might need to succeed teaching in co-taught classes (Feutsel, 2015)?

Appendix D

Tally Sheet and Rating Scale

Tally Sheet *(Gately & Gately, 2001)*

Record values for the question numbers from the scale. Then add the columns.

Interpersonal Communication 1. _____ 9. _____ 17. _____ Total: _____	Physical Arrangement 2. _____ 10. _____ 18. _____ Total: _____	Familiarity with Curriculum 3. _____ 11. _____ 19. _____ Total: _____	Curriculum Goals/modifications 4. _____ 12. _____ 20. _____ Total: _____
Instructional Planning 5. _____ 13. _____ 21. _____ Total: _____	Instructional Presentation 6. _____ 14. _____ 22. _____ Total: _____	Classroom Management 7. _____ 15. _____ 23. _____ Total: _____	Assessment 8. _____ 16. _____ 24. _____ Total: _____

Rating Scale *(Gately & Gately, 2001)*

Plot the totals for each component from the tally sheet.

Interpersonal Communication									
Physical Arrangement									
Familiarity with Curriculum									
Curriculum Goals/modifications									
Instructional Planning									
Instructional Presentation									
Classroom Management									
Assessment									
	Beginning		Compromising		Collaborative				

Appendix E

Questionnaire Question Matrix

<u>Question Number</u>	<u>Question Topic</u>	<u>Background Information</u>	<u>Research Question 1</u>	<u>Research Question 2</u>	<u>Research Question 3</u>
1.	Background	X			
2.	Background	X			
3.	Feeling		X		
4.	Feeling		X		X
5.	Opinion		X		X
6.	Opinion		X		X
7.	Opinion		X		X

Appendix F

Observation Protocol

Co-Teaching Checklist (Murawski & Lochner, 2011)

CO-TEACHING CHECKLIST				
General Educator: _____		Special Educator: _____		
Observer: _____		Date/Time: _____		
		LOOK FOR ITEMS		0= didn't see it at all 1 = Saw an attempt 2 = Saw it well done
		0	1	2
1. Two or more professionals working together in the same physical space.	0 = only one adult, two adults not communicating at all, class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room, both engaged in class & each other (even if not perfectly)			
2. Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration, room appears to belong to one teacher only 1 = some attempt at parity, both adults share materials and space 2 = clear parity, both names on board/report card, two desks or shared space, obvious feeling from teachers that it is "our room"			
3. Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late, adults leave the room for time w/o reason to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together and are with students the entire time *note – if adults have planned to use a regrouping approach (e.g. "parallel;") and one adult take a group of students out of the room (e.g. to the library) that is perfectly acceptable			
4. During instruction, both teachers assist	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults			

students with and without disabilities.	<p>primarily with a few of “their students”</p> <p>2 = it is clear that both adults are willing to help all students & that students are used to this</p>			
5. The class moves smoothly with evidence of co-planning and communication between co-teachers.	<p>0 = all planning appears to have been done by one adult and/or no planning is evident</p> <p>1 = minimal planning and communication is evident, most appears to be done by one adult</p> <p>2 = it is clear that both adults had input in lesson and communicate regularly as class progresses</p>			
6. Differentiated strategies, to include technology, are used to meet the range of learning needs.	<p>0 = there is no evidence of differentiation of instruction or use of technology in the classroom</p> <p>1 = there is minimal differentiation and use of technology, most differentiation appears to be focused on groups rather than individuals</p> <p>2 = it is clear that adults considered individual student needs, differentiation and use of technology is used when needed to meet individual needs as well as that of the group</p>			
7. A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	<p>0 = students remain in large class setting, adults rely solely on One Teach/One Support or Team</p> <p>1 = adults regroup students (using alternative, parallel, or station) at least once</p> <p>2 = adults use more the one of the 5 approaches (Friend & Cook’s one teach/one support, parallel, station, & alternative), at least one of the approaches involves regrouping students</p> <p>*note – if teachers have been overserved using other approaches in the past and only one approach is observed today (e.g. station), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency</p>			
8. Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	<p>0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management, possibly inappropriate class management</p> <p>1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use</p> <p>2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach, clear communication between adults</p>			
9. It is difficult to tell the special educator from the general educator.	<p>0 = observer could easily determine who was the general/special educator by their language/roles/lack of parity</p> <p>1 = observer could tell who was the general/special educator but there was a clear attempt at parity between them</p> <p>2 = observer would not be able to tell who was the</p>			

	general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom			
10. It is difficult to tell the special education students from the general education students.	<p>0 = observer could easily determine who was general/special education students by their lack of integration (e.g. students at back or separated from class)</p> <p>1 = observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities</p> <p>2 = observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students</p>			

CO-TEACHING CHECKLIST

General Educator: _____

Special Educator: _____

Observer: _____

Date/Time: _____

LISTEN FOR ITEMS		0= didn't see it at all 1 = Saw an attempt 2 = Saw it well done		
		0	1	2
11. Co-teachers use of language ("we";"our") demonstrates true collaboration and shared responsibility.	0 = adults use "I" language frequently (e.g. "I want you to..." Or "In my class..."), lacking parity 1 = adults attempt to use "we" language and include each other, but it is clear that one adult is used to "ruling" the class 2 = adults clearly use "we" language (e.g. "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge			
12. Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = class is very teacher-directed and the little involvement by students, questions/statements are general and not inclusive of all students 1 = a few statements/questions are phrased to encourage participation from a variety of students 2 = a clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements			
13. Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = students do not talk to one another ever during class or specific students are clearly excluded from student interactions 1 = most students appear to be included in the majority of student interactions 2 = it is evident from the students' actions and words that all students are considered an equal part of the class and are included in all students' interactions			
14. Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = adults do not use questions or ask questions geared just to one level (to the middle or "watered down") 1 = adults use closed and open questions at a variety of levels in a general manner 2 = adults use closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge			

Appendix G

Teacher Focus Group Protocol

Hello and welcome. Thank you for coming to this focus group interview today. This study has been exploring co-teaching at the high school and determining areas where co-teachers will benefit from professional development. You have been asked to be a part of this study because you are all co-teachers at the high school. As a reminder, all information given in this interview will remain confidential. Pseudonyms will be used in any publication related to this study. Additionally, participation is voluntary, and you may remove yourself from this study at any time.

Do you have any questions regarding this study or your involvement in it?

May I have permission to voice record this interview?

If yes: Turn on the voice recorder.

If no: *I will only take notes.*

I would like to start this conversation by talking about your experiences as co-teachers.

1. Please briefly describe how many you have co-taught and how long you have worked with your current co-teacher (adapted from King-Sears, Brawand, Jenkins, & Preston-Smith, 2014).
2. In what ways would you describe co-teaching as positive (adapted from Feutsel, 2015)?
3. In what ways would you describe co-teaching as negative (adapted from Feutsel, 2015)?

4. Do you feel that there is an equal distribution of roles and responsibilities between co-teachers (adapted from Murawski & Lochner, 2011)?

Researchers say that professional development helps co-teachers become more effective.

5. What kinds of co-teaching supports has the district provided to you (adapted from Feutsel, 2015)?
6. What factors impact co-teaching (Takcas, 2015)?
7. What could be done to improve inclusive practices in co-taught classrooms (Feutsel, 2015)?
8. Is there anything else you would like to discuss that I may have overlooked (Tackas, 2015)?

Thank you for your participation in this focus group interview and all other parts of this study. I appreciate all of the time and effort you all have dedicated to this study.

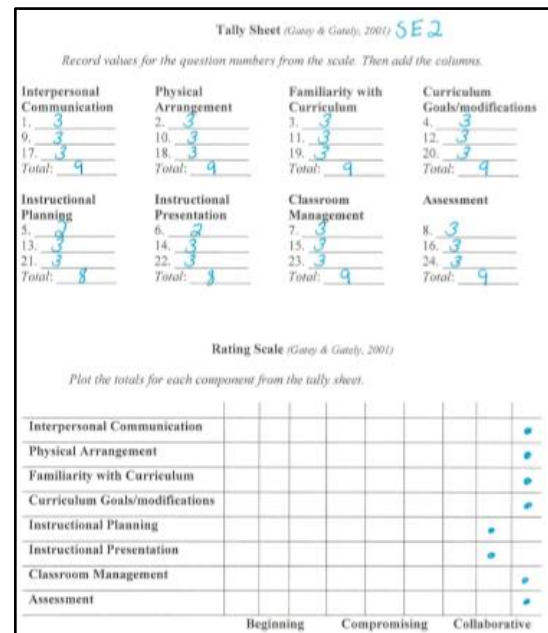
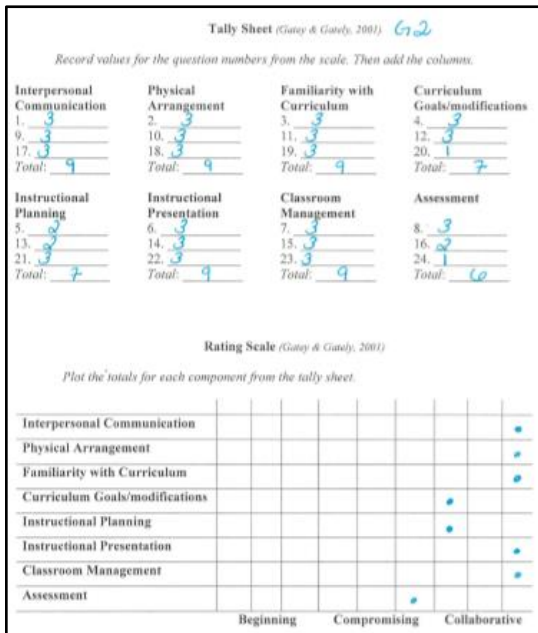
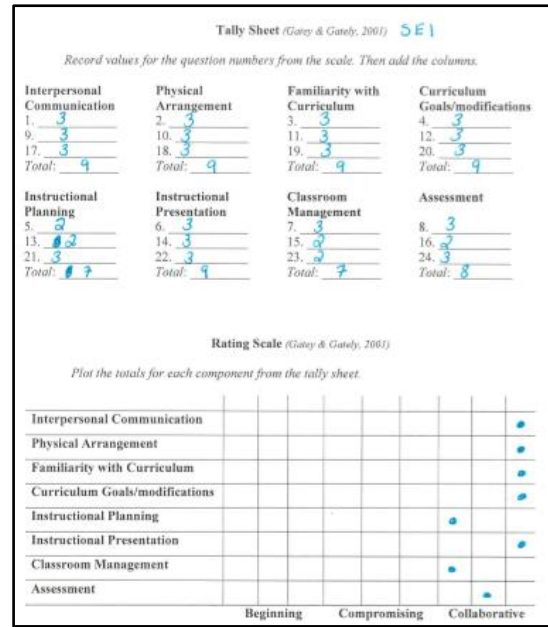
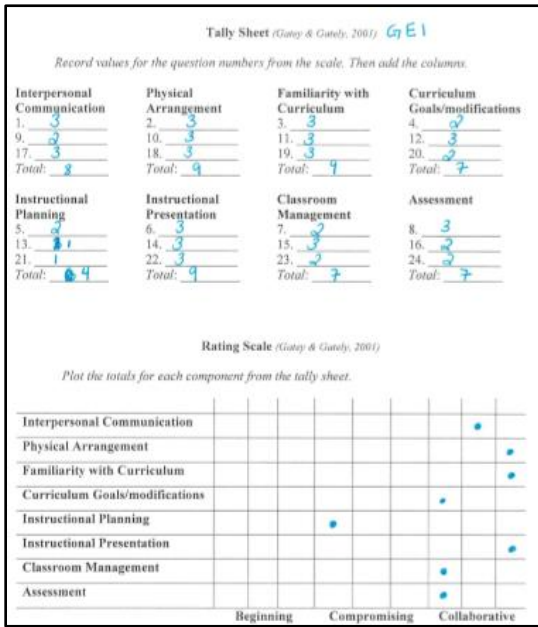
Appendix H

Teacher Focus Group Question Matrix

<u>Question</u>	<u>Type</u>	<u>Background Information</u>	<u>Research Question 1</u>	<u>Research Question 2</u>	<u>Research Question 3</u>
1.	Introduction	X			
2.	Transition		X		
3.	Transition		X		X
4.	Key		X		
5.	Transition		X		
6.	Transition	X	X		
7.	Key		X		X
8.	Closure		X		X

Appendix J

Data from the CTRS



Appendix K

Co-teacher Questionnaire Responses

Questions	Special Education Teacher Responses	General Education Teacher Responses
<p>In what ways would you describe your co-teaching experience as positive?</p>	<p>“Well-oiled machine” Collaborative Different approaches to better meet the needs of students Equal responsibility Good dialogue Good rapport Respectful Shared ideas for planning Sharing of student interactions Sharing of teaching Similar personality Similar philosophy The working relationship</p>	<p>Communication Compliment each other's strengths and weaknesses Co-teacher has good knowledge of content Co-teacher is more motherlike with the students Easy to get along with co-teacher Easy to work with co-teacher More ideas Perfect pairing Perfect system that has been perfected Shared responsibilities Similar goals and values for student success Someone to discuss information with Someone to rely on Team</p>
<p>In what ways would you describe your co-teaching experience as negative?</p>	<p>Might not always agree No common planning time</p>	<p>No common planning time In multiple rooms so no designated space which can interfere with routine Might not always agree Depend on the other person like a crutch Sometimes we alter assignments and forget to tell the other teacher</p>
<p>What factors impact co-teaching?</p>	<p>Knowledge of content Personalities planning time Planning time Relationship with co-teacher Respect for each other Student behaviors Student dynamics Unshared agenda Unshared philosophy</p>	<p>Comfortability of content Content knowledge Knowledge of content Longevity Personalities Personality Planning time Student dynamics Students Time off together</p>

<p>What could be done to improve the inclusive practices in a co-taught classroom?</p>	<p>Have more planning time Open communication Planning time Proper match of teacher personalities Willingness of people to work together</p>	<p>Common planning time Co-planning Defining specific roles More planning time Professional development Time off together Workshops offered that both teachers can go to together</p>
<p>What kinds of supports do you think you might need to succeed teaching in co-taught classes?</p>	<p>Administrative support Common planning time Honesty Time Training in Spanish Use more concrete example to help visual learners, we sometimes do the same stuff</p>	<p>Common planning time for lessons and grading Matched personalities Need a good working relationship with co-teacher Planning time Planning time professional development Willingness to give up the “reins” and let the other teacher take over sometimes</p>

Appendix L

Data from the Co-teaching Checklist

CO-TEACHING CHECKLIST		Observer:	Date/Time:	CO-TEACHING CHECKLIST		Observer:	Date/Time:
General Educator: <u>GE1</u> Special Educator: <u>SE1</u>				General Educator: <u>GE2</u> Special Educator: <u>SE2</u>			
LOOK FOR ITEMS				LOOK FOR ITEMS			
1. Two or more professionals working together in the same physical space.	0 = only one adult, two adults not communicating at all, class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room, both engaged in class & each other (even if not perfectly)	1	1	1. Two or more professionals working together in the same physical space.	0 = only one adult, two adults not communicating at all, class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room, both engaged in class & each other (even if not perfectly)	2	2
2. Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration, room appears to belong to one teacher only 1 = some attempt at parity, both adults share materials and space 2 = clear parity, both names on board/report card, two desks or shared space, obvious feeling from teachers that it is "our room"	1	0	2. Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration, room appears to belong to one teacher only 1 = some attempt at parity, both adults share materials and space 2 = clear parity, both names on board/report card, two desks or shared space, obvious feeling from teachers that it is "our room"	2	2
3. Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late, adults leave the room for time w/o reason to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together and are with students the entire time *note -- if adults have planned to use a regrouping approach (e.g., "parallel,") and one adult take a group of students out of the room (e.g. to the library) that is perfectly acceptable	2	2	3. Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late, adults leave the room for time w/o reason to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together and are with students the entire time *note -- if adults have planned to use a regrouping approach (e.g., "parallel,") and one adult take a group of students out of the room (e.g. to the library) that is perfectly acceptable	2	2
4. During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily with a few of "their students" 2 = it is clear that both adults are willing to help all students & that students are used to this	1	2	4. During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily with a few of "their students" 2 = it is clear that both adults are willing to help all students & that students are used to this	2	2
5. The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident, most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses	1	2	5. The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident, most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses	2	2
6. Differentiated strategies to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology, most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs, differentiation and use of technology is used when needed to meet individual needs as well as that of the group	0	1	6. Differentiated strategies to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology, most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs, differentiation and use of technology is used when needed to meet individual needs as well as that of the group	1	1
7. A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = students remain in large class setting, adults rely solely on One Teach/One Support or Team 1 = adults regroup students (using alternative, parallel, or station) at least once 2 = adults use more the one of the 5 approaches (Friend & Cook's one teach/one support, parallel, station, & alternative), at least one of the approaches involves regrouping students *note -- if teachers have been observed using other approaches in the past and only one approach is observed today (e.g. station), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency	1	0	7. A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = students remain in large class setting, adults rely solely on One Teach/One Support or Team 1 = adults regroup students (using alternative, parallel, or station) at least once 2 = adults use more the one of the 5 approaches (Friend & Cook's one teach/one support, parallel, station, & alternative), at least one of the approaches involves regrouping students *note -- if teachers have been observed using other approaches in the past and only one approach is observed today (e.g. station), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency	0	0

8. Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management, possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach, clear communication between adults	2	2	8. Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management, possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach, clear communication between adults	1	2
9. It is difficult to tell the special educator from the general educator.	0 = observer could easily determine who was the general/special educator by their language/roles/lack of parity 1 = observer could tell who was the general/special educator but there was a clear attempt at parity between them 2 = observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom	1	1	9. It is difficult to tell the special educator from the general educator.	0 = observer could easily determine who was the general/special educator by their language/roles/lack of parity 1 = observer could tell who was the general/special educator but there was a clear attempt at parity between them 2 = observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom	2	2
10. It is difficult to tell the special education students from the general education students.	0 = observer could easily determine who was general/special education students by their lack of integration (e.g. students at back or separated from class) 1 = observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities 2 = observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students	1	2	10. It is difficult to tell the special education students from the general education students.	0 = observer could easily determine who was general/special education students by their lack of integration (e.g. students at back or separated from class) 1 = observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities 2 = observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students	2	2
LISTEN FOR ITEMS				LISTEN FOR ITEMS			
11. Co-teachers use of language ("we," "our") demonstrates true collaboration and shared responsibility.	0 = adults use "I" language frequently (e.g. "I want you to..." Or "In my class..."), lacking parity 1 = adults attempt to use "we" language and include each other, but it is clear that one adult is used to "ruling" the class 2 = adults clearly use "we" language (e.g. "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge	1	1	11. Co-teachers use of language ("we," "our") demonstrates true collaboration and shared responsibility.	0 = adults use "I" language frequently (e.g. "I want you to..." Or "In my class..."), lacking parity 1 = adults attempt to use "we" language and include each other, but it is clear that one adult is used to "ruling" the class 2 = adults clearly use "we" language (e.g. "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge	2	2
12. Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = class is very teacher-directed and the little involvement by students, questions/statements are general and not inclusive of all students 1 = a few statements/questions are phrased to encourage participation from a variety of students 2 = a clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements	0	2	12. Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = class is very teacher-directed and the little involvement by students, questions/statements are general and not inclusive of all students 1 = a few statements/questions are phrased to encourage participation from a variety of students 2 = a clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements	2	2
13. Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = students do not talk to one another ever during class or specific students are clearly excluded from student interactions 1 = most students appear to be included in the majority of student interactions 2 = it is evident from the students' actions and words that all students are considered an equal part of the class and are included in all students' interactions	0	1	13. Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = students do not talk to one another ever during class or specific students are clearly excluded from student interactions 1 = most students appear to be included in the majority of student interactions 2 = it is evident from the students' actions and words that all students are considered an equal part of the class and are included in all students' interactions	1	2
14. Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = adults do not use questions or ask questions geared just to one level (to the middle or "watered down") 1 = adults use closed and open questions at a variety of levels in a general manner 2 = adults use closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge	0	1	14. Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = adults do not use questions or ask questions geared just to one level (to the middle or "watered down") 1 = adults use closed and open questions at a variety of levels in a general manner 2 = adults use closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge	2	1

General Educator: <u>GE3</u>		Special Educator: <u>SE3</u>	
Observer: _____		Date/Time: _____	
LOOK FOR ITEMS			
	Observer	1	2
1. Two or more professionals working together in the same physical space.	0 = only one adult, two adults not communicating at all, class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room, both engaged in class & each other (even if not perfectly)	2	2
2. Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration, room appears to belong to one teacher only 1 = some attempt at parity, both adults share materials and space 2 = clear parity, both names on board/report card, two desks or shared space, obvious feeling from teachers that it is "our room"	2	2
3. Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late, adults leave the room for time w/o reason to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together and are with students the entire time *note - if adults have planned to use a regrouping approach (e.g. "parallel") and one adult take a group of students out of the room (e.g. to the library) that is perfectly acceptable	2	1
4. During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily with a few of "their students" 2 = it is clear that both adults are willing to help all students & that students are used to this	1	2
5. The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident, most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses	1	2
6. Differentiated strategies, to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology, most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs, differentiation and use of technology is used when needed to meet individual needs as well as that of the group	0	0
7. A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = students remain in large class setting, adults rely solely on One Teach/One Support or Team 1 = adults regroup students (using alternative, parallel, or station) at least once 2 = adults use more the one of the 5 approaches (Friend & Cook's one teach/one support, parallel, station, & alternative), at least one of the approaches involves regrouping students *note - if teachers have been observed using other approaches in the past and only one approach is observed today (e.g. station), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency	0	0

General Educator: <u>GE4</u>		Special Educator: <u>SE4</u>	
Observer: _____		Date/Time: _____	
LOOK FOR ITEMS			
	Observer	1	2
1. Two or more professionals working together in the same physical space.	0 = only one adult, two adults not communicating at all, class always divided into two rooms 1 = two adults in same room but very little communication or collaborative work 2 = two adults in same room, both engaged in class & each other (even if not perfectly)	2	2
2. Class environment demonstrates parity and collaboration (both names on board, sharing materials, and space).	0 = no demonstration of parity/collaboration, room appears to belong to one teacher only 1 = some attempt at parity, both adults share materials and space 2 = clear parity, both names on board/report card, two desks or shared space, obvious feeling from teachers that it is "our room"	2	2
3. Both teachers begin and end class together and remain in the room the entire time.	0 = one adult is absent or late, adults leave the room for time w/o reason to this class 1 = one adult may be late but for remaining time, they work together 2 = both adults begin and end together and are with students the entire time *note - if adults have planned to use a regrouping approach (e.g. "parallel") and one adult take a group of students out of the room (e.g. to the library) that is perfectly acceptable	0	2
4. During instruction, both teachers assist students with and without disabilities.	0 = adults are not helping students or are only helping "their own" students 1 = there is some helping of various students but adults primarily with a few of "their students" 2 = it is clear that both adults are willing to help all students & that students are used to this	2	2
5. The class moves smoothly with evidence of co-planning and communication between co-teachers.	0 = all planning appears to have been done by one adult and/or no planning is evident 1 = minimal planning and communication is evident, most appears to be done by one adult 2 = it is clear that both adults had input in lesson and communicate regularly as class progresses	2	2
6. Differentiated strategies, to include technology, are used to meet the range of learning needs.	0 = there is no evidence of differentiation of instruction or use of technology in the classroom 1 = there is minimal differentiation and use of technology, most differentiation appears to be focused on groups rather than individuals 2 = it is clear that adults considered individual student needs, differentiation and use of technology is used when needed to meet individual needs as well as that of the group	1	1
7. A variety of instructional approaches (5 co-teaching approaches) are used, include regrouping students.	0 = students remain in large class setting, adults rely solely on One Teach/One Support or Team 1 = adults regroup students (using alternative, parallel, or station) at least once 2 = adults use more the one of the 5 approaches (Friend & Cook's one teach/one support, parallel, station, & alternative), at least one of the approaches involves regrouping students *note - if teachers have been observed using other approaches in the past and only one approach is observed today (e.g. station), it is acceptable to recall previous observations and give a 2 for using a variety of approaches as adults have demonstrated competency	0	2

8. Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management, possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach, clear communication between adults	2	2
9. It is difficult to tell the special educator from the general educator.	0 = observer could easily determine who was the general/special educator by their language/roles/lack of parity 1 = observer could tell who was the general/special educator but there was a clear attempt at parity between them 2 = observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom	0	2
10. It is difficult to tell the special education students from the general education students.	0 = observer could easily determine who was general/special education students by their lack of integration (e.g. students at back or separated from class) 1 = observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities 2 = observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students	2	2
LISTEN FOR ITEMS			
11. Co-teachers use of language ("we"/"our") demonstrates true collaboration and shared responsibility.	0 = adults use "I" language frequently (e.g. "I want you to..." Or "In my class..."), lacking parity 1 = adults attempt to use "we" language and include each other, but it is clear that one adult is used to "ruling" the class 2 = adults clearly use "we" language (e.g. "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge	1	2
12. Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = class is very teacher-directed and the little involvement by students, questions/statements are general and not inclusive of all students 1 = a few statements/questions are phrased to encourage participation from a variety of students 2 = a clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements	0	2
13. Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = students do not talk to one another ever during class or specific students are clearly excluded from student interactions 1 = most students appear to be included in the majority of student interactions 2 = it is evident from the students' actions and words that all students are considered an equal part of the class and are included in all students' interactions	0	2
14. Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = adults do not use questions or ask questions geared just to one level (to the middle or "watered down") 1 = adults use closed and open questions at a variety of levels in a general manner 2 = adults use closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge	0	0

8. Both teachers engage in appropriate behavior management strategies as needed and are consistent in their approach to behavior management.	0 = there is no obvious plan for behavior management, nor do adults appear to communicate about how they are approaching class management, possibly inappropriate class management 1 = behavior management strategies are utilized but there is very little clear evidence of how adults have communicated about their use 2 = it is evident that adults have discussed how they will approach classroom/behavior management and adults are consistent in their approach, clear communication between adults	1	2
9. It is difficult to tell the special educator from the general educator.	0 = observer could easily determine who was the general/special educator by their language/roles/lack of parity 1 = observer could tell who was the general/special educator but there was a clear attempt at parity between them 2 = observer would not be able to tell who was the general/special educator as parity was evident and adults shared the roles and responsibilities in the classroom	1	2
10. It is difficult to tell the special education students from the general education students.	0 = observer could easily determine who was general/special education students by their lack of integration (e.g. students at back or separated from class) 1 = observer could tell who were the general/special education students but there was a clear attempt at inclusion of students for most activities 2 = observer would not be able to tell who were the general/special education students as parity was evident and adults shared the responsibilities for working with all students	2	2
LISTEN FOR ITEMS			
11. Co-teachers use of language ("we"/"our") demonstrates true collaboration and shared responsibility.	0 = adults use "I" language frequently (e.g. "I want you to..." Or "In my class..."), lacking parity 1 = adults attempt to use "we" language and include each other, but it is clear that one adult is used to "ruling" the class 2 = adults clearly use "we" language (e.g. "We would like you to..."), showing that they both share the responsibility and students know they are equally in charge	2	2
12. Co-teachers phrase questions and statements so that it is obvious that all students in the class are included.	0 = class is very teacher-directed and the little involvement by students, questions/statements are general and not inclusive of all students 1 = a few statements/questions are phrased to encourage participation from a variety of students 2 = a clear attempt is made by both adults to engage all students through the use of a variety of types of questions and statements	1	2
13. Students' conversations evidence a sense of community (including peers with and without disabilities).	0 = students do not talk to one another ever during class or specific students are clearly excluded from student interactions 1 = most students appear to be included in the majority of student interactions 2 = it is evident from the students' actions and words that all students are considered an equal part of the class and are included in all students' interactions	2	2
14. Co-teachers ask questions at a variety of levels to meet all students' needs (basic recall to higher order thinking).	0 = adults do not use questions or ask questions geared just to one level (to the middle or "watered down") 1 = adults use closed and open questions at a variety of levels in a general manner 2 = adults use closed and open questions at a variety of levels in a way that demonstrates they are able to differentiate for specific students in order to ensure maximum (appropriate) levels of challenge	1	1

Appendix M

Informed Consent Form



CONSENT TO TAKE PART IN A RESEARCH STUDY

TITLE OF STUDY: An explorative case study on the perceived effectiveness of co-teaching and a need for professional development

Principal Investigator: Jacquelyn Foy

This consent form is part of an informed consent process for a research study and it will provide information that will help you to decide whether you wish to volunteer for this research study. It will help you to understand what the study is about and what will happen in the course of the study.

If you have questions at any time during the research study, you should feel free to ask them and should expect to be given answers that you completely understand.

After all of your questions have been answered, if you still wish to take part in the study, you will be asked to sign this informed consent form.

Jacquelyn Foy will also be asked to sign this informed consent. You will be given a copy of the signed consent form to keep.

You are not giving up any of your legal rights by volunteering for this research study or by signing this consent form.

FINANCIAL INTERESTS: None

A. Why is this study being done?

This study is being done in partial fulfillment of a doctoral degree in educational leadership. This study will be researching the effectiveness of co-teaching partnerships based on Gately and Gately's (2001) eight components of effective co-teaching. It will look for areas where professional development would increase the effectiveness of co-teaching.

B. Why have you been asked to take part in this study?

You have been asked to take part in this study because you are either a co-teacher or an administrator at this high school.

As a co-teacher, participation in this study will require you to complete a survey and questionnaire. Combined, the survey and questionnaire should take no more than twenty minutes of your time. You will also agree to three classroom observations by the researcher. Classroom observations will take place during a class period where you are co-teaching. I will be a non-participant observer. This means that I will not interfere with your classroom proceedings. Finally, you will be asked to take part in a focus group discussion. The focus group discussion will be scheduled after school hours and should take no more than two hours of your time.

As an administrator, participation in this study will require you to take part in a focus group discussion. This focus group discussion will be scheduled at the convenience of the participants either during or after school hours and should take no more than one hour of your time.

C. Who may take part in this study? And who may not?

Teachers that co-teach in math, language arts, science or history may take part in this study. In addition, administrators who have direct supervision of co-teachers at the high school may take part in this study.

Teachers that do not currently co-teach in an inclusion classroom will not be permitted to participate in this study.

D. How many subjects will be enrolled in the study?

This study expects to enroll four administrators and ten co-teaching dyads.

E. How long will my participation in this study take?

The study will take place over a period of 6 weeks. As a co-teaching participant, I ask you to spend a maximum of 2.5 hours after school and three classroom observations participating in this study. Each observation will last approximately *45 minutes*.

As an administrator, I ask you to spend one hour of time participating in this study.

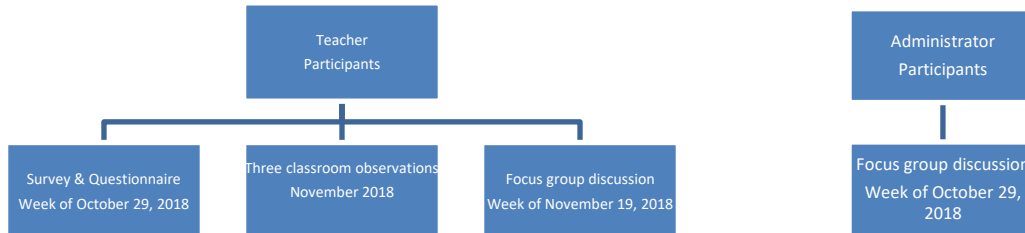
F. Where will the study take place?

This study will take place at Hammonton High School, located at 566 Old Forks Road, Hammonton, NJ. You will be asked to come to the above location to partake in the study potentially during the week of October 8, 2018 to complete a survey and questionnaire. During the months of October and November, you will partake in three classroom observations. During the week of November 12, 2018, you will come to the above location to participate in a focus group discussion.

G. What will you be asked to do if you take part in this research study?

Teacher participants will be asked to 1) complete a survey and questionnaire, 2) partake in three classroom observations, and 3) participate in a focus group discussion.

Administrator participants will be asked to participate in a focus group discussion.



H. What are the risks and/or discomforts you might experience if you take part in this study?

The design of this study and participation in the study presents minimal risks for both sets of participants and there are also no risks for anyone choosing not to participate in the study.

I. Are there any benefits for you if you choose to take part in this research study?

The benefits of taking part in this study may include, a deeper understanding of co-teaching and insight into strengths and weaknesses of your co-teaching partnership.

It is possible that you might receive no direct personal benefit from taking part in this study. However, your participation may help us understand what can benefit you directly and may help to generate recommendations for professional development that will increase effectiveness of other co-teachers at the high school.

J. What are your alternatives if you don't want to take part in this study?

There are no alternative treatments available. Your alternative is to not take part in this study.

K. How will you know if new information is learned that may affect whether you are willing to stay in this research study?

During the course of the study, you will be updated about any new information that may affect whether you are willing to continue taking part in the study. If new information is learned that may affect you, you will be contacted.

L. Will there be any cost to you to take part in this study?

The only cost in participating in this study is your time.

M. Will you be paid to take part in this study?

You will not be paid for your participation in this research study.

N. How will information about you be kept private or confidential?

All efforts will be made to keep your personal information in your research record confidential, but total confidentiality cannot be guaranteed. Your personal information may be given out, if required by law. Presentations and publications to the public and at scientific conferences and meetings will not use your name and other personal information. My personal computer, which is password protected, will be used to analyze data. All raw data, paper and digital will be stored in a locked cabinet at my house for five years. I will be the only person who will have access to raw data.

O. What will happen if you do not wish to take part in the study or if you later decide not to stay in the study?

Participation in this study is voluntary. You may choose not to participate, or you may change your mind at any time.

If you do not want to enter the study or decide to stop participating, your relationship with the study staff will not change, and you may do so without penalty and without loss of benefits to which you are otherwise entitled.

You may also withdraw your consent for the use of data already collected about you, but you must do this in writing to *Jacquelyn Foy, 2311 Memorial Ct., Atco, NJ 08004*.

If you decide to withdraw from the study for any reason, you may be asked to participate in one meeting with the Principal Investigator.

P. Who can you call if you have any questions?

If you have any questions about taking part in this study or if you feel you may have suffered a research related injury, you can call the Principal Investigator:

*Jacquelyn Foy
609-685-9823
JacquelynMFoy@comcast.net*

If you have any questions about your rights as a research subject, you can call:

Office of Research Compliance
(856) 256-4078– Glassboro/CMSRU

What are your rights if you decide to take part in this research study?

You have the right to ask questions about any part of the study at any time. You should not sign this form unless you have had a chance to ask questions and have been given answers to all of your questions.

AGREEMENT TO PARTICIPATE

I have read this entire form, or it has been read to me, and I believe that I understand what has been discussed. All of my questions about this form or this study have been answered.

Subject Name: _____

Subject Signature: _____ Date: _____

Signature of Investigator/Individual Obtaining Consent:

To the best of my ability, I have explained and discussed the full contents of the study including all of the information contained in this consent form. All questions of the research subject and those of his/her parent or legal guardian have been accurately answered.

Investigator/Person Obtaining Consent: _____

Signature: _____ Date: _____