

Fostering the Development of High School Co-teaching Teams:

Lessons from Two Exemplary Pairs

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ABSTRACT

Co-teaching is a service delivery option consisting of two or more educators or other certified staff that share the instructional responsibility for a single group of students. This is accomplished in a single classroom with co-teachers sharing mutual ownership, pooled resources, and joint responsibilities for the group of students (Friend, 2014). If implemented well, co-teaching has tremendous potential as a highly effective teaching practice for improving the achievement of the diverse group of learners in a mixed ability classroom. However, research indicates that co-teaching is a far more complicated teaching practice than it may appear. The purpose of this study was to identify the characteristics of two exemplary co-teaching teams at the secondary level. The study was conducted at a suburban high school in Central New Jersey and was guided by the following overarching question: What are the key elements needed to foster the development of exemplary high school co-teaching teams? This overarching question was then further divided into three more specific questions: (1) What traits do partners in exemplary high school co-teaching teams have in common? (2) What supports do exemplary co-teaching partners identify as needed to be an effective and successful co-teaching team? and (3) What barriers do exemplary co-teaching partners identify as impacting effective and successful co-teaching partnerships? These research questions were answered through classroom observations and interviews, informal conversations, and the collection of classroom documents over a period of four months. After reading the data multiple times, coding, and identifying patterns and themes, interpretations were formulated. The findings of this study showed the importance of the teacher's commitment to his/her partner and the students, shared values and beliefs, a significant investment of time and energy, administrative support, shared resources, effective communication, and collaboration. Practical recommendations and suggestions for future research are presented. The findings of this study will be used to design a comprehensive co-teaching professional development plan for teachers to establish a common understanding of co-teaching and the components necessary to implement an effective co-teaching partnership.

Keywords: Co-teaching, least restrictive environment, inclusion, Individual Education Program (IEP).

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Dedication

This dissertation is dedicated to my husband, Kenneth, whose acceptance and support of my constant desire to challenge myself educationally through the attainment of two Master's degrees and certification as an Orton Reading Teacher within a six-year period followed closely by my enrollment in the Rutgers doctoral program in 2012, has made everything possible for me.

It is also dedicated to my wonderful daughter, Lindsay, for her unconditional love and understanding when I was often unavailable to her throughout my extended educational journey.

Finally, I dedicate this dissertation to my parents, Rita and Robert Miller, for instilling a love of learning, teaching me the importance of education, and supporting me in my pursuit of earning a doctoral degree.

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CHAPTER I

Introduction

Problem of Practice

In 2004, the Individuals with Disabilities Education Improvement Act (IDEIA) and No Child Left Behind Act of 2001 (NCLB) increased the focus on students with diverse learning characteristics participating in general education placements. As a result, students began receiving their education in the least restrictive environment. The New Jersey Administrative Code, 6A, Chapter 14, Special Education (N.J.A.C. 6A: 14) indicates that students in the least restrictive environment must be educated “to the maximum extent appropriate, students with disabilities, including students in public or private programs, must be educated with students who are not disabled (N.J.A.C. 6A: 14, 2010, p. 75).” According to the National Center for Education Statistics, 60.5% of special education students in the United States spend more than 80% of their school day included in general education classrooms (<http://nces.ed.gov/>). The recent legislation has led to a renewed interest in providing all students with meaningful access to general education and, has therefore, had a direct impact on the ways in which schools are structured and teachers work. As more students with special needs are served in the general education classroom, the role of the special education teacher has had to transform.

Another significant shift in the lives of teachers has been the No Child Left Behind Act of 2001 which requires all teachers to be “highly qualified” to teach their assigned subjects. According to NCLB, all teachers must demonstrate subject matter competence in every subject they teach. This presents a problem for special education educators as most of the teachers are “content generalists” and *not* “highly qualified” to teach core academic subjects to students with disabilities.

The “highly qualified” requirements can be met however, when a special education teacher is co-teaching with a general education teacher. In the co-teaching model, two teachers, a general and a special educator, work together to develop a differentiated curriculum that meets the needs of a diverse population of students (Gately & Gately, 2001). The creation of co-teaching partnerships between qualified teachers who have demonstrated subject area expertise, and strategies for adjusting curriculum, instruction, and the learning environment meets the requirements for NCLB and the Individuals with Disabilities Improvement Act (IDEIA).

Friend (2008) defines co-teaching as a process in which a general education and a special education teacher jointly share instructional decisions, responsibilities, and accountability. This widely accepted, but often ineffectively implemented, service delivery model causes significant changes in teaching and learning for both students and teachers. One of the most significant changes for teachers is the move from the traditional model of teaching alone, to a dual teaching model where a content specialist collaborates with the special education teacher in the same classroom to meet the needs of a diverse group of students.

When done well, there are documented benefits of teachers engaged in a co-teaching model. Participants in empirical studies have reported increased professional satisfaction, professional growth, personal support, and increased collaboration among faculty members for general education and special education teachers participating in co-teaching partnerships (Walther-Thomas, 1997). Other studies have reported the benefits of academic achievement, social development, acceptance of differences, and increased cooperation for general education and special education students as reported by students and teachers in co-taught classrooms. According to Pugach and Wesson (1995), students in co-taught classrooms reported that their academic and social needs were being better met in the co-taught classroom than with a

single teacher in a self-contained classroom. Students had more immediate access to their teacher, which allowed them to be more successful in school. The documented benefits, according to the Schwab Learning (2003) study, reported decreased referrals for intensive special education services, increased overall student achievement, fewer behavior problems, less paperwork, and an increase in the number of students referred for gifted and talented education.

Alongside the potential benefits of co-teaching are potential challenges. Any new experience or unfamiliar practice may be met with resistance, and co-teaching is no exception. The co-teaching model can be a new teaching experience for one or both teachers requiring time to develop effective interpersonal communication, a professional working relationship with a colleague, familiarity with the curriculum, instructional planning, instructional presentation, and classroom management (Gately & Gately, 2001).

The research (Weiss & Lloyd, 2002; Rice & Zigmond, 2000; Keefe & Moore, 2004) indicates that instituting a co-teaching approach to support students with disabilities in regular secondary schools is a complex, professionally demanding endeavor. The challenges of consistent procedures for assigning co-teaching partners, lack of clear understanding of the role and responsibilities of the co-teaching partners, lack of co-planning time, and lack of teacher programs that prepare students to be effective co-teachers have been identified as significant barriers to effective implementation of the co-teaching model.

Although the implementation of the co-teaching models has increased, there is a lack of consensus on the specific features required to maximize positive outcomes with regard to the precise roles of both the content and special education teachers, and the best way to measure the benefit of co-teaching (Mastropieri, et. al., 2005). This lack of consensus makes it difficult to develop effective methods for training co-teaching pairs. This present study is valuable as it

builds on the previous literature (Mastropieri, et al., 2005; Villa, et al., 2008, Weiss & Lloyd, 2002; Rice & Zigmond, 2000; Keefe & Moore, 2004; Wilson & Blednick, 2011; Walther-Thomas, 1997; Gately & Gately, 2001) and will contribute to the emerging research on identifying the key elements needed to foster the development of exemplary high school co-teaching teams.

Given the changing roles of teachers in nontraditional models of delivering special education services, the purpose of this study was to examine the components of effective co-teaching by exploring the experiences and characteristics of two exemplary co-teaching pairs. According to Ableser (2011), exemplary teaching is defined as teaching in which successful learning (students meeting learning outcomes, student achievement, engagement of students, successful completion of courses) has occurred and/or has been evaluated as excellent by administrators through teacher evaluations, and observations. In addition, Ableser (2011) identifies the following skills associated with exemplary teaching: organization, clarity, effective communication, planning, resources and technology, assessment techniques, follow-through, and reflective practice. A qualitative design was used to study exemplary co-teaching partnerships in a suburban high school and guided by the following overarching question:

What are the key elements needed to foster the development of exemplary high school co-teaching teams? This overarching question was then further divided into three more specific questions:

1. What traits do partners in exemplary co-teaching teams have in common?
 - a. How do co-teaching partners in a suburban high school describe the traits of an exemplary co-teaching team?
 - b. How do exemplary co-teaching partners organize their teams?

- c. What are the teaching practices of exemplary co-teaching partners?
2. What supports do exemplary co-teaching partners identify as needed to be an effective and successful co-teaching partnership?
3. What barriers do exemplary co-teaching partners identify as impacting effective and successful co-teaching partnerships?

Significance of the Study

Federal and state mandates have called for special education students to be included in regular education classrooms and achieve high academic standards (McLaughlin & Thurlow, 2003; Tschannen-Moran & Barr, 2004). When the content knowledge of general education teachers is effectively combined with the adaptive techniques of special education teachers, it changes the way classes are taught for all students and can increase student learning (Fennick & Liddy, 2001).

This study provided valuable information on identifying the common traits of exemplary co-teaching partners for the development of more effective and successful co-teaching teams. This information can be shared with school districts to improve the co-teaching model as documented by rating scales, classroom observations, document analysis, field notes, teacher interviews, informal conversations following classroom observations, and a researcher journal. Following the completion of this study, the findings will be used to design a comprehensive co-teaching professional development plan for teachers to establish a common understanding of co-teaching and the key elements necessary to implement an effective co-teaching partnership.

CHAPTER II

Literature Review

This literature review examined the practice of co-teaching in inclusion classrooms. The focus was on co-teaching pairs, composed of special education teachers and general education teachers. Research regarding the benefits of co-teaching, challenges to co-teaching pairs, components for effective co-teaching partnerships, and co-teaching approaches was reviewed. The literature review identified the defining traits of effective co-teaching partnerships.

Co-Teaching in Inclusion Classrooms

The research in this section will focus on the benefits and challenges of co-teaching in inclusive classrooms. The benefits of co-teaching provided a rationale for the use of this service delivery option as a way to provide students with disabilities or other special needs the special instruction to which they are entitled while ensuring that they can access the general curriculum in the least restrictive environment (Friend, 2008). The challenges co-teachers experience when attempting to implement this instructional model were reviewed to provide an overview of the obstacles and barriers that impact the effectiveness of the co-teaching model.

Benefits of the co-teaching model. Co-teaching, in addition to providing students with disabilities access to co-taught classrooms, provides opportunities for general and special education teachers to collaborate and to learn from each other's expertise. The essential characteristics of successful co-teaching pairs found in the literature includes: professional growth, personal support, professional satisfaction in reaching all learners, and increased opportunities to expand knowledge and skills. In addition, the research has also identified the

benefit to students with and without disabilities in inclusive classrooms. These include increased self-confidence, enhanced academic performance, stronger peer relationships, increased emphasis on cognitive strategies and study skills, and an increased sense of classroom community.

Research indicates that the co-teaching model benefits all learners. This was a clear finding of the Pugach and Wesson (1995) study. This qualitative study was a part of an experimental project that examined the co-teaching model in a fifth grade classroom in a Midwestern city in the United States. The participants of the study included two fifth grade general education teachers and one special education teacher who volunteered to be part of the experimental project forming a teaching team. The two teachers shared the services of the special education teacher in a co-taught classroom during specific academic periods of the day. All three teachers were provided with a daily common planning time of 35 minutes, engaged in decision making during informal exchanges, and met formally one time per week to share ideas and plan instructional presentations.

The student participants in this study included nine general education and nine special education students. The nine general education students were selected randomly from the pool of students from two fifth grade classrooms. The sources of data for this study included student and teacher interviews conducted at the end of the school year. It is interesting to note that the researchers did not observe the students or teachers in the co-taught classrooms at any time during the year, but relied on the data generated by student interviews and a small number of teacher discussions. Another interesting finding in this study is the number and timing of the interviews. The study identified student and teacher interviews occurring only at the end of the

school year. The collection and reporting of data at the end of the study could be misleading or inaccurate.

The results of the student interviews and teacher discussions revealed three different themes; classroom social climate, instructional effects, and teacher roles. A study of climate indicated that all students felt safe, comfortable, and appropriately challenged in the co-taught learning environments. Analysis of the role of the teachers indicated that while some of the students saw the special education teacher as a helping teacher, others identified the three teachers as taking turns in delivering instruction in specific content areas. Students in the co-taught classrooms reported that their academic and social needs were being better met in the co-taught classroom than with a single teacher in a special education classroom. Students had more immediate access to their teachers, which allowed them to be more successful in school. This is an important finding since students have traditionally viewed special education teachers in co-teaching partnerships as serving in a more supportive, unequal role.

The results of the teacher interviews in the Pugach and Wesson (1995) study focused on the teachers' perceptions of the program's successes and limitations, the nature of the teachers' interactions, and the degree to which the program could meet the needs of all learners in inclusive classrooms. The successes outlined in the study included opportunities for students to participate in effective pedagogical practices such as flexible grouping, multiple teacher perspectives, and teachers sharing instructional roles and responsibilities.

While the Pugach and Wesson (1995) study revealed the benefits of the co-teaching model, it was a small-scale study of a unique situation involving fifth grade students. However, the Walther-Thomas (1997) three-year longitudinal study covers a considerably larger sample size of 23 co-teaching teams implementing the co-teaching model in eight school districts. The

Walther-Thomas longitudinal study was selected for this literature review because it identified the benefit of implementing co-teaching over a three-year period. Involvement over a three-year period provided the researchers with valuable information on the benefits as well as persistent problems associated with the implementation of the co-teaching model.

The purpose of the Walther-Thomas (1997) study was to investigate the benefit that teams experienced as they implemented co-teaching models. The study explored the implementation experiences of elementary and middle school teams during the early stages of their co-teaching program development. Although the findings focused on the benefits for co-teaching partnerships from the teachers' perspective, it also provided valuable insight from the students' perspective. The results of the three-year study showed that teachers and administrators believed there were benefits to both students with disabilities and general education students. Students with disabilities reported increased self-confidence, enhanced academic performance, improved social skills, and stronger peer relationships. General education students reported improved academic performance, more time with and attention from the teacher(s), increased emphasis on cognitive strategies and study skills, increased emphasis on social skills, and an increased sense of a classroom community.

In addition, both co-teaching partners indicated that the special education and general education students benefited from access to both teachers as demonstrated by the increase in students' academic and social progress in the inclusive learning environment. Teachers were able to share their knowledge and skills with all learners to further develop study skills strategies, social skills development, and classroom communities.

The Walther-Thomas (1997) study used a set of criteria for the selection of co-teaching partners. First, the co-teaching partners were identified by administrators as being recognized

for innovative special education programming. Secondly, all identified co-teaching teams were observed by the researchers to determine if effective co-teaching practices were in place. Lastly, all identified co-teaching partners and administrators at specific schools had to be willing to participate in the three-year study. The identified criteria in the Walther-Thomas (1997) study was reviewed and adapted by the researcher for the current study on identifying the key elements needed to foster the development of exemplary high school co-teaching teams.

In summary, the findings of the Walther-Thomas (1997) study pointed to the benefits of the co-teaching model. The co-teaching partners reported increased professional growth, personal support, professional satisfaction in reaching all learners, and increased opportunities to expand knowledge and skills. They reported that their working relationship became easier as teachers were able to discuss their concerns, ideas, and interests more easily with one another (Walther-Thomas, 1997).

Austin's (2001) qualitative study of co-teaching detailed similar findings to Walther-Thomas with the addition of a co-teaching rating scale. The rating scale gathered information in four different areas: co-teacher perceptions of current experience, recommended collaborative practices, teacher preparation for collaborative teaching practices, and school based supports. The author surveyed 139 teachers in nine school districts in northern New Jersey to determine how co-teachers perceive the co-teaching model. The nine districts were identified as districts that had previously established and practiced the co-teaching model. Each of the nine districts had a minimum of six co-teaching partnerships.

The findings of the survey and teacher interviews yielded several interesting results. The first significant finding is that the majority of the teachers surveyed did not volunteer for

the co-teaching experience. This is surprising because the success of co-teaching partnerships relies heavily on teacher buy-in or interest in the co-teaching practice. Although they did not volunteer, the teachers reported they found the co-teaching experience worthwhile. This raised the question for the current researcher whose study will investigate whether volunteering to co-teach influences how teachers perceive the co-teaching model. The second interesting finding is that both general and special education teachers reported that the general education teacher does more than their special education partners in inclusive classrooms. This might indicate a weakness to the co-teaching model because it illustrates a perception of primary and secondary teaching roles and prevents the equality necessary for a successful co-teaching partnership.

Austin (2001) surmises that this finding may be due to the fact that the special education teacher is not a content expert but rather an expert in remediation and curriculum adaptation, and may be taking a less active role in teaching the content and serving more often in a supportive, unequal role.

Additional findings of this study clearly demonstrate the benefit of the co-teaching model with regard to student academic and social growth. The majority of the teachers interviewed stated they believed the co-teaching model positively contributed to the academic development of all students in co-taught classes. Factors that contributed to this outcome include student-teacher ratio, the benefit of another teacher's expertise, opportunities for general education students to gain an understanding of learning differences, and improved educational outcomes.

Research has shown that teachers and students benefit from the co-teaching model. The results of multiple studies (Walther-Thomas, 1997; Pugach & Wesson, 1995; Austin, 2001) indicate that teachers report increased opportunities for professional growth, personal support,

professional satisfaction in reaching all learners, and increased opportunities to expand knowledge and skills. According to the Walther-Thomas (1997) study, participants reported that it was very rewarding to have an additional teacher in the classroom to share the successes and challenges.

The benefit to all students includes increased self-confidence, enhanced academic performance, stronger peer relationships, increased emphasis on cognitive strategies and study skills, and an increased sense of classroom community. Co-teaching provides students with opportunities to learn in environments that model collaboration, demonstrate respect for different perspectives, and utilize a process for building on each other's strengths to meet the unique needs of all learners (Villa, Thousand, and Nevin, 2008).

Although the studies identified the benefits of implementing the co-teaching model, there are a variety of limitations in analyzing these studies. First, districts identified teaching pairs, but not necessarily exemplary co-teaching pairs. This makes it difficult to ascertain the components of the most effective co-teaching practices. Additionally, districts have varying expectations of co-teaching practices making it difficult to compare co-teaching models across different studies. As a result of the research, we know that co-teaching is valuable to teachers and students. However, we do not know the most effective way to establish and maintain successful co-teaching relationships and, therefore, how to teach others to effectively implement the co-teaching model in inclusive classrooms.

This research provides strong evidence that teachers consider co-teaching to be an effective method for teaching students with a diverse range of abilities and needs in a standards-based learning environment. However, despite the strength of this research, there are still challenges that co-teaching pairs encounter when implementing co-teaching as a service

delivery model. While research utilizing qualitative methodology to gather data to support the academic benefit to students is needed, it is important to explore and analyze the obstacles co-teaching pairs encounter as they implement co-teaching models in inclusive classrooms.

Challenges of the co-teaching model. Alongside the potential benefits of co-teaching are potential challenges (Wilson & Blednick, 2011). Any new experience or unfamiliar practice may be met with resistance, and co-teaching is no exception. The co-teaching model can be a new teaching experience for one or both teachers requiring time to develop effective interpersonal communication, a professional working relationship with a colleague, familiarity with the curriculum, instructional planning, instructional presentation, and classroom management (Gately & Gately, 2001). Participants in empirical studies have reported challenges of role clarification, scheduling pressures, limited content knowledge, and lack of acceptance by general education teachers.

Much of the research indicates that a significant challenge to the co-teaching experience is a lack of balance between the co-teaching partners. Weiss and Lloyd (2002) compared the roles of special education teachers in co-taught and self-contained classrooms. Participants of the study were six special education teachers located in a rural local education agency (LEA) in the Mid-Atlantic region of the United States. Three of the participants taught in middle school grades six through eight, while the remaining three participants taught at the high school level grades nine through twelve. All six participants were experienced teachers with varied co-teaching experiences in different content areas.

Weiss and Lloyd (2002) conducted interviews and classroom observations as part of the study. The researchers observed the six teachers in co-taught and special education settings averaging nine observations per teacher for a total of 54 observations. Each observation lasted

approximately 30 minutes. Based on their current teaching assignment, two teachers were observed in a co-taught classroom environment while four teachers were observed both in a special education classroom (resource room) and in the corresponding co-taught classroom.

The researchers compared the instructional actions of special education teachers in the general education and special education setting looking at actions of explaining, questioning providing help, and providing follow-up. The findings of the Weiss and Lloyd study indicated that the instructional activities in classrooms were different depending on the location of instruction. Participants provided instructional actions targeting explicit tasks within the special education classroom, but did not provide the same services in the co-taught classroom. In this study, the special educator's role in a co-taught classroom focused on monitoring, whole group interaction, and behavior; however, within the special education setting, the special education teacher's role was on providing direct instruction, modifying the curriculum, and providing behavioral modifications on a routine basis.

The findings from the Weiss and Lloyd (2002) study are interesting and relevant to this current study on co-teaching. The instructional actions of the special education teachers in co-taught classrooms were influenced by lack of co-planning scheduling, lack of content knowledge, lack of identification of roles and responsibilities, and professional pressures.

As a result, the special education teachers in this study took on a more supportive role such as assisting students at their desks as the general education teacher instructed and monitored student behavior. This study confirms the need for co-teaching partners to receive effective professional development. In an exemplary co-teaching program, co-teachers should attend trainings together to provide opportunities for shared learning and team building (Texas Education Agency).

The Rice and Zigmond (2000) study compared the roles of special education teachers in co-taught classrooms at the secondary level in 10 public secondary schools; two in a large urban school district in Southwestern Pennsylvania (United States) and eight in an urban area of Queensland (Australia). As in the Weiss & Lloyd (2002) study, all 17 participants were experienced teachers who had been partners in co-taught classrooms. One significant difference between the studies was that the participants in the Rice and Zigmond (2000) study had volunteered to be co-teaching partners while those in the Weiss and Lloyd study had not.

Both Rice & Zigmond (2000) and Weiss and Lloyd (2002) identified factors affecting implementation and success of the co-teaching model based on their perceptions of co-teaching. Issues noted were the learning gaps in academic and behavioral skill levels between students with and without disabilities, lack of school wide support, scheduling conflicts, a lack of time to complete required tasks, and differences in content knowledge between the co-teaching partners.

The researchers recognized challenges to the implementation of the co-teaching model. They stated that teachers contributed to the success or failure of co-teaching, the benefit of co-teaching, personal and professional compatibility, special educators need to “prove themselves,” equity of teaching roles, and obstacles to co-teaching. The themes outlined in the Rice and Zigmond (2000) study are directly related to the current study of identifying the key elements needed to foster the development of exemplary high school co-teaching teams.

The Rice and Zigmond (2000) study found differences in the implementation of the co-teaching model. In Australia, the co-teaching model appeared to be more accepted, and as a result, pairs were more comfortable teaching in co-taught classrooms. In Pennsylvania, teachers reported inconsistent roles in the classroom. It is interesting to note that the researchers state they were unable to find a model of co-teaching that met the criteria they had set.

A study by Keefe & Moore (2004) examined the challenges of the co-teaching model in inclusive classrooms at Cactus Ridge High School in the southwest of the United States. The co-teaching model was initiated in several classes in the late 1980s for students with learning disabilities. However, the co-teaching model had not been implemented on a school wide level. Students with more significant learning and behavioral deficits were educated in more restrictive self-contained learning environments.

Three major themes emerged from the analysis of the interviews conducted at the end of the school year: choosing a co-teaching partner, communication, and numbers/time. In their study there was not a consistent method for choosing a co-teaching partner. The administrators usually assigned co-teaching partners with little input from the teachers. The teachers identified the selection of co-teaching partners as essential to an effective co-teaching partnership. Many of the teachers recommended that teachers have input in selecting their co-teaching partner.

Teams also had insufficient co-planning time because administrators did not recognize the importance of it. Effective communication was identified as necessary throughout the course of the partnership. Numbers and time emerged as a theme related to collaboration. Teachers reported that finding the time for communication and planning was problematic. Many of the teachers stated the challenges of the large class size and lack of common planning time acted as a disincentive for teachers to want to enter into a co-teaching partnership. In this study the average class size for a co-taught class was reported to be 45 students. This class size is almost double the size of most co-taught classes at the secondary level.

Additionally, the study did not have a clear understanding of the role of the general education teacher or the special education teacher in the co-taught classroom. Several of the special education teachers reported being treated as an educational assistant. Other challenges

included the special education teachers' lack of content knowledge. Both general education and special education teachers suggested that special education teachers should only teach one or two subject areas so they could become more proficient in the content area of their co-teaching class assignment.

The implications of the study included the need for better teacher preparation programs in high school content areas for special education teachers and a better understanding of the co-teaching model for both teachers. The authors recommend that faculty in teacher preparation programs model co-teaching in teacher preparation programs (Keefe, Rossi, de Valenzuela, & Howarth, 2000). Limitations of the study include small sample size of eight special education and general education teachers, geographical location (New Mexico), and inconsistent co-teaching practices.

The research studies presented by (Weiss & Lloyd, 2002; Rice & Zigmond, 2000; Keefe & Moore, 2004) indicate that implementing a co-teaching approach to support students with disabilities in secondary schools is a complex, professionally demanding endeavor. The challenges outlined in these studies are significant barriers to effective implementation of the co-teaching model. They include the lack of consistent procedures for assigning co-teaching partners, a lack of clear understanding of the role and responsibilities of the co-teaching partners, lack of content knowledge, lack of co-planning time, and teacher programs that do not prepare students to be co-teachers or develop effective communication skills. More research is needed to further clarify models and efficacy of secondary co-teaching partners and the conditions under which they are likely to succeed.

Co-teaching approaches. There are many names for the models of co-teaching, but they all share the same essential components with few variations. Co-teaching can be implemented in

a variety of ways depending on the needs of the students and the arrangement that works best for both the special education and general education teachers. However, the selected approach must consider the following: specific content, teaching material, needs of the students, expertise of the teachers, planning time, and administrative support (Friend & Cook, 2002, Snell & Janney, 2005; Thousand, Villa, & Nevin, 2006b).

In the literature, there are different names and categories used to describe various co-teaching approaches (Friend & Cook, 2007; Walther-Thomas et al., 2000; Villa et al., 2004). Friend and Cook (2007) describe six different, widely accepted models of co-teaching. These approaches are: one teach, one observe, teaming, one teach, one assist, station rotation, alternative teaching and parallel teaching. The six approaches can be divided into two distinct instructional practices based on the size of the group. Whole group instruction refers to both teachers instructing and supporting students in a large group or full class. Small group instruction is defined as each teacher instructing a group of students on a particular aspect of the content. The benefits of the small group model are a decrease in the student-to-teacher ratio, increasing the teachers' abilities to assess student understanding, and increases the possibility of more students responding and participating in class discussions. The instructional practices for both whole group and small group instruction are listed below.

Whole group instructional practices. Whole group instructional practices include three different models; the one teach, one observe, teaming, and one teach, one assist. The one teach, one observe approach to co-teaching is when one teacher takes the lead instructional role while the other teacher collects data. The co-teaching partners pre-determine specific observational information to gather during instruction. The collection of data in the co-taught class has many purposes including designing instruction, grouping students, student behavior, and/or monitoring

student progress. This model provides valuable data for teachers to analyze in determining future lessons and teaching strategies. According to Friend (2014), the one teach, one observe approach should be used frequently for brief periods of time.

Friend (2014) defines teaming as “one brain in two bodies.” In the teaming model, the general education and special education teacher share the responsibility of leading instruction. While their roles may shift throughout the lesson, the key characteristic that defines this model is that “both teachers are fully engaged in the delivery of core instruction (Friend, 2008). According to Friend (2014), the teaming approach should be used occasionally. It is recommended for occasional use because students are being instructed in a whole group, and are not receiving the intensity of instruction that several of the other models provide. In a contrasting view, Wilson & Blednick (2011) believe that teaming is effective as long as both teachers are adept with the curriculum content.

The one teach, one assist co-teaching approach places one of the teachers, usually the general education teacher in the lead role while the other teacher functions as a support in the classroom. The teacher in the supportive role monitors all students, addresses behavioral issues, manages materials, and assists individual students with questions. According to Friend (2014), the one teach, one assist approach should be used on a seldom basis. This model typically places the special education in a supportive role and as a result can create an uneven balance between the co-teachers. According to Scruggs, Mastropieri, & McDuffie (2007), the one teach, one assist model of co-teaching is the most often used and least effective.

Small group instructional practices. Small group instructional practices include station teaching, parallel teaching, and alternative teaching. In the station-teaching model, students are divided into two, three, four, or five heterogeneous groups. Each teacher directly instructs a

group of students on the unit of study while the students in the other groups work independently. The students remain in their respective groups, rotating from station to station so that each teacher eventually instructs each group of students. According to Friend (2014), the station teaching model should be used frequently.

The parallel teaching model occurs when the class is divided into two groups and each teacher is instructing half the class either in the same content or addressing specific instructional objectives. The co-teachers plan the groups and instruction. The groups may stay with one teacher or may switch teachers upon the completion of the instructional objectives. According to Friend (2014), the parallel teaching approach should be used frequently.

The alternative teaching model allows teachers the ability to target the unique needs of a specific group of students. During instruction, one teacher instructs a larger group of students while the other teacher delivers instruction to a smaller group of students for a specific instructional purpose. Either teacher may work with either group of students. The students in the smaller group vary based on the lesson or classroom expectation. According to Friend (2014), the alternative teaching model should be used on an occasional basis.

Co-teaching partners can implement more than one co-teaching approach during classroom lessons depending on the content and their expertise with the various approaches. Friend and Cook (2003) recommend that co-teachers experiment with different classroom approaches to ensure that the needs of all students in inclusive classrooms are met.

In summary, the purpose of this literature review was to investigate the benefits and challenges of co-teaching as an instructional method of teaching students in inclusive classrooms, and in addition, review the different co-teaching approaches that co-teachers employ in co-taught classrooms. The literature has identified specific elements for the implementation of

successful co-teaching pairs. The elements include professional growth, personal support (common planning periods), professional satisfaction in reaching all learners, increased opportunities to expand knowledge and skills, and opportunities for professional development. Although the literature identifies the benefits of co-teaching, it also identifies the challenges of implementing co-teaching. These challenges include the lack of understanding of the roles and responsibilities of co-teaching partners, lack of procedures in the selection of co-teaching partners, lack of co-planning time, and lack of curricular knowledge.

The information obtained from the literature review on co-teaching has provided an in-depth look at what works and what is needed to implement an effective co-teaching model. Professional development in co-teaching for participating teachers is essential. As co-teachers, the special education teacher and the general education teacher learn to share the responsibility of educating all students. Together, they understand the needs of each student, plan effective instruction, share roles and responsibilities, and employ flexible teaching practices utilizing different co-teaching models to create opportunities for student learning.

In addition to the existing research, the researcher analyzed the characteristics of highly effective exemplary teams collected through classroom observations, informal conversation sessions, interviews, review of field notes, and discussions with teachers to answer the research questions outlined in this research study. The researcher looked critically at the barriers identified by each co-teaching pair in order to develop a comprehensive professional development plan to serve as a roadmap for future co-teaching teams.

Conceptual Framework: Self-Determination Theory

The final section of the literature review discusses self-determination theory, a theory of motivation. The self-determination theory was initially developed by Edward L. Deci and Richard M. Ryan, and has been elaborated and refined by scholars from many countries. Self-determination theory (Deci & Ryan, 2002) accounts for motivation in many disciplines, including education, psychotherapy, health, sports and exercise.

The hypothesis of the theory posits that people have three basic psychological needs: competence, relatedness and autonomy. Competence is defined as the desire to control and master the environment and outcome. According to Ryan & Deci (2008), people want to know how things would turn out and the results/consequences of their actions. The second psychological need is relatedness. People have the desire to interact with or connect to other people. Our actions and daily activities involve other people and through this we seek the feeling of belonging (McDaniel, 2011). The final psychological need is autonomy, which Deci & Ryan (2008) describe as having a sense of free will when doing something or acting out of our own interests and values.

According to the literature review, certain characteristics and supports are essential for effective co-teaching partnerships. One of the most important characteristics cited is the motivation to enter into a co-teaching partnership. This is directly related to the theory of self-determination. If partners are motivated and determined to become co-teaching partners, it is more likely that their partnership will be successful. According to the research, teachers are more effective partners if they enter into the partnership through voluntary means. As a result, they demonstrate more compatibility or relatedness. Co-teaching partners need to relate and connect with one another in order to meet the needs of learners in inclusive classrooms.

Additional characteristics identified as necessary for successful partnerships include the development of effective interpersonal communication skills. As teachers move from the traditional classroom to co-taught environments, they need to agree on their roles and responsibilities in the shared learning environment. When teachers effectively communicate with one another and divide the responsibilities of the classroom, they demonstrate competence in delivering instruction in a co-taught classroom. The final need identified in the Self-Determination Theory is autonomy. According to the review of co-teaching models in the literature review, autonomy occurs when the co-teaching partners engage in three different co-teaching models; station rotation, alternative and parallel teaching. Additional supports cited in the literature include the need for common co-planning periods, and effective professional development.

High quality co-teaching requires certain characteristics and organization supports to be an effective service delivery model. The theory on self-determination, literature review, and pilot study served as a model for the data collection and analysis. The researcher has learned that if specific elements and organizational supports are in place, the more likely the co-teaching team will be a motivated, competent, autonomous, high quality partnership.

CHAPTER III

Research Design & Methodology

A qualitative research design was used to describe the common traits of exemplary co-teaching partnerships consisting of general education and special education teachers. The research focused on four characteristics as identified by Merriam (2009) as process, understanding, meaning, and the researcher serving as the primary instrument of data collection and analysis. Using a qualitative research design allowed for the conducting of research within real-life contexts in order to describe and analyze the experiences of high school general and special education teachers in a co-teaching partnership. The rich descriptions afforded by co-teaching rating scales, interviews, observations, informal conversation sessions, field notes, documents, and a research journal provided the researcher with a deeper understanding of the common traits of exemplary co-teaching teams. Other characteristics of a qualitative research study included a purposeful and small sampling of exemplary co-teaching partners.

Pilot Study

Prior to this study on “Fostering the Development of High School Co-teaching Teams: Lessons from Two Exemplary Pairs,” the researcher began a pilot study on “An Examination of Co-teaching: Perspectives, Stages and Supports” in February 2013 at Middlebury High School, a suburban high school in Middlebury, NJ. The researcher embarked on the research study as a new administrator in the Middlebury school district. The participants for the pilot study were four teachers new to co-teaching selected through administrative recommendation. A qualitative design was used to describe the new co-teaching partnerships through a series of classroom observations (2) and interviews (2).

After completing the pilot study, the researcher decided to change several aspects of the study to reflect the change in focus from studying new co-teaching partners to exemplary co-teaching partners. As a result of the shift in focus, the researcher changed the following: the research site, selection process of participants, number of observations and interviews, and the addition of informal conversation sessions. The research site was changed from Middlebury High School to Green Valley High School based on the researcher's knowledge of the Green Valley School District and its focus on the implementation of high quality co-teaching models.

The process used to identify the co-teachers for the current research study was changed to include both the completion of a co-teaching rating scale and administrative recommendations. The number of teaching staff participating in the current study remained the same at 4 co-teaching partners. The researcher changed the selection process of co-teaching partners to reflect two different content areas as compared to the single content area of English previously represented in the pilot study. The researcher wanted to observe exemplary pairs in two different content areas to gain a deeper understanding of different co-teaching models, instructional presentations using different curriculum in the respective content area, and the interpersonal relationships between the co-teaching partners.

The researcher increased the number of observations for the current study from two to three observations and added scheduled informal conversation sessions following each of the observations. The addition of the informal conversation sessions were based on unplanned follow-up sessions that had occurred following each of the observations during the pilot study. Additionally, the researcher used an observational protocol to ensure a consistent focus during observations. Similar to the pilot study, all classroom observations were audio-recorded by the researcher.

Following the completion of the pilot study, the researcher decided to change the number and format of interviews. The number of interviews was increased from two to three incorporating both co-teaching partners in the interview process. The decision to include both teachers in all three interviews was based on the researcher's experiences during the pilot study. During the pilot study, both co-teaching partners provided similar responses and discussed their partnerships in specific ways. The researcher felt there was value in interviewing the partners together in order to gather data reflecting shared or diverse views on their roles, practices, and beliefs.

When reviewing the research on co-teaching during the pilot study, the researcher found limited research on co-teaching at the secondary level due to the relative newness of this service delivery model and to a lack of quantitative and experimental studies. As a result, the researcher expanded the literature review to explore more current research studies on co-teaching and the various types of co-teaching models or approaches used in co-taught classrooms in the co-taught classroom.

The pilot research study on “An Examination of Co-teaching: Perspectives, Stages and Supports” was extremely valuable and helped to shape the design of this study on “Fostering the Development of High School Co-teaching Teams: Lessons from Two Exemplary Pairs.”

Setting for the Study

The research site for this study was Green Valley High School, a suburban high school in Green Valley, New Jersey. Green Valley High School is a comprehensive, public high school which provides programs to meet the needs of more than 1800 students enrolled in grades 9-12. The high school incorporates an academic calendar consisting of four marking periods and implements a rotating drop schedule creating more time for staff to collaborate and develop

instructional goals on intra/inter departmental levels. A four-year continuum of courses is offered in business, English, fine arts, World Language, math, music, technology education, science and social studies. Core courses are offered at Green Valley High School on different ability levels: Resource Center Replacement, College Preparatory, Honors level and Advanced Placement classes. At Green Valley High School, co-teaching practices are implemented in College Preparatory classes of Mathematics, English, Social Studies and Science.

During the 2012-13 school year, Green Valley High School implemented two significant changes to the high school program and schedule. The first change involved the implementation of a rotating drop schedule while the second change was programmatic involving the consolidation of higher and lower level college preparatory classes into a single college preparatory level.

The rotating drop schedule provided students with a longer class period allowing for the implementation of a wider variety of instructional strategies that were more consistent with students needs (Brown, 2001). The new schedule increased instructional time from 40 to 56 minutes per class period. As a result of the implementation of the rotating drop schedule, co-teaching partners were required to plan for longer periods of time using a variety of instructional strategies and activities that addressed the needs of a diverse group of learners.

In order to increase academic options for students with differentiated abilities, Green Valley High School district consolidated College Preparatory 1 (CP1) and College Preparatory 2 (CP2) classes into one single level College Preparatory course. As a result of the consolidation, high school teachers faced the challenge of meeting the academic, social, and behavioral needs of a considerably more diverse group of learners.

The Green Valley School District was selected for this research study due to its focus on the implementation of high quality co-teaching models and strong administrative support to ensure that all students have access to meaningful learning. In Green Valley High School, common planning periods for co-teaching partners were incorporated into the school's master schedule. During the common planning periods, teachers were provided with the opportunity to anticipate upcoming instruction (day-to-day, week-to-week, unit-to-unit), review student data to identify strengths and needs, and discuss co-teaching approaches. Co-teaching support is in the form of thoughtful selection of co-teaching partners, prioritizing the scheduling of co-taught classes, providing training and planning time, and respecting reasonable ratios of students with and without disabilities in co-taught classrooms (Wilson & Blednick, 2011).

Collaboration is the way of doing "business" in the Green Valley Public Schools. It is reflected in the Green Valley Public School's mission statement, "Empowering all to learn, create, contribute, and grow." This belief is reflected in the collaborative model of Green Valley's organizational structure in which the superintendent, assistant superintendents, principals, assistant principals, and supervisors work closely in supporting the teaching staff in order to provide an exceptional education for all students.

According to the information located on the Green Valley Public Schools' website (About Our Schools. (n.d.). Retrieved November 1, 2015), "It's not just a catchy saying at Green Valley Public Schools. Parents and community members share the belief that quality education is a priority and they support that commitment through funding, involvement, and social action."

The mission statement of Green Valley Public Schools is more than just the words referenced above, rather, it is evidenced by the instructional practices that each staff member experiences while working in Green Valley Public Schools. The staff at Green Valley High

School staff collaborates with colleagues, supervisors, members of the child study team, classroom assistants, related services providers, parents, and students during each school day. The teaching schedule was developed to include content area “on-call” or duty periods each week allowing time for teachers in the same content area to collaborate. The teaching staff meets bi-monthly with the administrative staff for department and building-based meetings.

The collaborative nature of schools today requires that all teachers have effective adult-to-adult interaction skills (Conderman, Rodriquez & Hartman, 2009). The interaction skills of the partners in both co-teaching teams have taken collaboration to a high level through the development of their co-teaching practices as they effectively work with their respective co-teaching partner in meeting the needs of the diverse group of students in inclusive classrooms.

Role of the Researcher

The researcher was employed by the Green Valley Board of Education as a Special Education Supervisor, working and evaluating special education teachers at the preschool, elementary, middle, and high school levels from 2011-13, two years prior to the beginning of this study. As the special education supervisor, the researcher worked closely with new and tenured high school special education teachers on the development and implementation of effective co-teaching practices through weekly classroom observations, department meetings, and professional development workshops.

As a special education supervisor, the researcher observed and evaluated special education teachers in a variety of placements (co-teaching, resource room, self-contained settings). All 16 of the high school special education teachers were assigned as co-teaching partners in one or more content areas at Green Valley High School. During the 2012-13 school year, six of the 16 special education teachers were either new to teaching or new to

implementing the co-teaching model in inclusive classrooms. As the special education supervisor, the researcher worked closely with the newly hired teachers to expand their knowledge and understanding of an effective co-teaching service delivery model.

Participants

The participants in the research study included two co-teaching pairs from Green Valley High School, Green Valley, New Jersey identified by a selection process involving an administrative recommendation and the results of a co-teaching rating scale. A two-tiered strategy was used to identify the two co-teaching teams for this study.

The first tier of the process was the initial identification of six exemplary teams through the recommendation of the Assistant Superintendent of Green Valley Public Schools and the Green Valley High School Principal. The second tier involved the administration and scoring of the Co-teaching Rating Scale (CtRS) for General and Special Education teachers published by Gately & Gately, 2001 (Appendix A). The identified co-teaching partners met with the researcher at Green Valley High School to fill out the rating scale. The CtRS is a list of 24 statements describing co-teaching practices. The statements reference interpersonal communication, physical arrangement of the classroom, familiarity with the curriculum, curriculum goals and modifications, instructional planning, instructional presentation, classroom management, and assessment.

The CtRS publishes separate forms for the general and special education teachers. The highest possible score for each teacher was 72 points. The highest possible combined (general and special education teachers) co-teaching partnership score was 154. The researcher reviewed the results of the co-teaching rating scale completed by the general and special education teachers. The results of the CtRS indicated the following scores; 150, 148, 140, 138, 136, and

134. The two sets of co-teaching partners with the highest combined score were selected for the study.

The four co-teaching partners selected for the study were Ms. Miller/Mr. McCoy, and Mr. Casey/ Mr. Smith. Ms. Miller and Mr. McCoy co-teach Biology while Mr. Casey and Mr. Smith co-teach Modern World History. Shortly after identifying the participants, a meeting was scheduled with each identified pair to review the purpose and expectations of the study. After meeting with each pair of co-teaching partners, an observation was scheduled by the researcher to further validate their effectiveness as exemplary co-teaching partners. If the selected pair was deemed inappropriate for the study, another co-teaching pair would have been selected. A back-up list of teachers with the next highest scores was compiled in case any one of the teachers was unable to participate in the study. All selected teachers were observed by the evaluator and found to be effective co-teaching partners. All participants were interested and available to participate in this study.

Once identified, each participant's background information was added to Chart 1 listed below.

Chart 1: Participants' Background Information

Participants' Name	Teaching assignment 2014-15	General Ed teacher	Special Ed teacher	Years of teaching	Teaching Certification
Mr. Smith	ICR MWH (3) Honors MWH (2)	x		19	BA English BA Social Studies
Mr. Casey	ICR MWH (3) RC MWH (2)		x	4	BA Social Studies MS Special Ed
Mr. McCoy	ICR Biology (2)	x		14	BA Biology

	Honors Biology (1) AP Biology (1)				MAT Secondary Education
Ms. Miller	ICR Biology (3) RC Biology (1)		x	19	BS Biology, Health, Physical Education MA Teaching MS Special Ed

When the observations were completed and the exemplary pairs identified, the researcher met with the selected teachers to review the purpose, components, and timeline of the study. After the expectations of the study were explained, the teachers confirmed their participation in the study by completing the consent form (Appendix D).

Data Collection Procedures

Data were collected through observations, field notes, informal conversation sessions, document analysis, interviews, and a research journal as shown in Chart 2. The researcher observed the co-teaching partners three times in the classroom using a researcher-created observational protocol published by the Texas Education Agency, (Appendix C). The researcher gathered information for the observation using field notes as the complete observer as outlined in Merriam (2009). Informal conversation sessions were scheduled after each observation to ensure that the researcher had an opportunity to ask the co-teaching partners clarifying questions about the observation or any other questions that may result from the discussion of the observation.

Chart 2: Research Questions and Data Collection Methods

Research Question	Methods	How do the data collection tools assist the researcher in answering each of my research questions?
1. What are the key elements needed to foster the development of exemplary high school co-teaching teams?	Interviews Observations Field Notes Documents	Interviews and observations were utilized to identify the key elements needed to foster the development of exemplary high school co-teaching teams.
a. How do co-teaching partners in a suburban high school describe the traits of an exemplary co-teaching team?	Interviews Field Notes Informal Conversations Documents	Interviews were utilized to gain a deeper understanding of the traits of exemplary co-teaching partners.
b. How do exemplary co-teaching partners organize their teams?	Interview Observations Informal Conversations	Interviews and observations were utilized to gain a deeper understanding of different co-teaching models.
c. What are the teaching practices of exemplary co-teaching partners?	Interviews Observations Documents Research Journal	The data was reviewed to deepen my knowledge of teaching practices implemented in co-taught classrooms.
2. What supports do exemplary co-teaching partners identify as needed to be an effective and successful co-teaching partnership?	Observations Interviews Research Journal	<p>Observations were conducted during scheduled class periods. Classroom observation notes were reviewed to identify the types of supports utilized in each of the collaborative learning environments.</p> <p>The participants were interviewed by the researcher to gain a deeper understanding of the essential supports to foster effective and successful co-teaching partnerships.</p>

3. What barriers do exemplary co-teaching partners identify as impacting effective and successful co-teaching partnership?	Observations Interviews Research Journal	Observations were conducted during scheduled class periods. Classroom observation notes were reviewed to identify barriers that impacted effective and successful co-teaching partnerships. The participants were interviewed by the researcher to gain a deeper understanding of the barriers impacting effective co-teaching practices.
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Observations. During this study the researcher used the data from the observations to help understand the context of the co-teaching relationships in place at the research site (Patton, 2002). The observations took place three times during the 2014-15 school year in January 2015, March 2015, and April 2015. Each observation was scheduled for one high school class period, 56 minutes.

The researcher observed the co-teaching partners in the classroom using a researcher-created observational protocol (Appendix C). The observational protocol included; general information, co-teacher communication, lesson development/presentation, classroom climate, student engagement, co-teaching approach, classroom management, and differentiation.

Field notes. The researcher gathered information from the observation using field notes as an observer as participant outlined in Merriam (2009). These notes included, but were not limited to, written descriptions of the setting, people, and activities in the researcher's own language; direct quotations when applicable; and comments about the observations (Merriam, 2001). In addition, field notes were used to document informal conversation sessions following observations as well as any relevant conversations or interactions that may have occurred between the researcher and the identified teachers.

Informal conversation sessions. Informal conversation sessions were scheduled with each co-teaching team following each of the classroom observations in January 2015, March 2015, and April 2015. Since all four teachers were available after each of the three observations, the informal conversation sessions occurred directly after each observation. The conversations provided an opportunity for the researcher to ask clarifying questions to either or both of the co-teaching partners. Field notes were used to document each of the informal conversation sessions.

Interviews. The researcher developed semi-structured interview protocols based on a series of open-ended questions. The interview protocols were piloted in the field to determine if the qualitative questions were clear and if any changes to the protocol were required before the actual interviews (Appendix B). Interviews provided the opportunity to see the world from the participants' perspective (Patton, 2002). A semi-structured interview allowed the researcher to explore beyond the questions and guide the conversation spontaneously with the focus on a particular predetermined subject (Patton, 2002). The interview style allowed the researcher to respond to the participant's stories as they emerged during the interview (Merriam, 2001). The interviews were conducted in January 2015, March 2015, and April 2015.

All three interviews were scheduled to include both co-teaching partners. The purpose of scheduling the teachers together was for the researcher to gather data on shared or diverse views of the teacher's roles, practices and beliefs in the co-taught classroom. During the first scheduled interview on 1/20/15, Ms. Miller, one of the Biology co-teaching partners was unable to participate in the scheduled interview. Instead of rescheduling the first interview, the researcher interviewed Mr. McCoy, the Biology co-teaching partner, and rescheduled Ms. Miller's interview to 2/27/15. All other interviews with the co-teaching partners occurred as scheduled.

The interviews with the co-teaching partners were conducted in a non-threatening environment where the teachers had a degree of trust in the researcher and each other. The questions developed for the first interview focused on each teacher's role and beliefs in the co-taught classroom. The second set of interview questions focused on each individual teacher's description of his/her current co-teaching experience. The final set of interview questions targeted the effective components of the co-teaching model.

All interviews were audio-recorded and transcribed using an online transcription company (Rev.com). The transcription of the interviews was stored in a chronological file and uploaded to Dedoose. Chart 3 below outlines the timeline of actions throughout the research study from November 2014-March 2016.

Chart 3: Timeline of Actions

November 2014
<ul style="list-style-type: none"> • Meeting with High School Principal and Assistant Superintendent to identify 4-6 exemplary co-teaching pairs at Green Valley High School • Meeting with the 4-6 co-teaching pairs at Green Valley High School to fill out the Co-teaching Rating Scale for general education and special education teachers (CtRS) • Informal observation of 2 exemplary co-teaching pairs • Schedule Interview with each co-teaching pairs (2 interviews)
January 2015
<ul style="list-style-type: none"> • Schedule classroom observation/Informal conversation sessions with 2 exemplary co-teaching pairs (2 observations) • Schedule interviews with general education and special education teacher of 2 exemplary co-teaching pairs (2 interviews)
March 2015
<ul style="list-style-type: none"> • Schedule classroom observation/Informal conversation sessions with 2 exemplary co-teaching pairs (2 observations) • Schedule interviews with general education and special education teacher of 2 exemplary co-teaching pairs (2 interviews)
April 2015
<ul style="list-style-type: none"> • Schedule classroom observation/Informal conversation sessions with 2 exemplary co-teaching pairs (2 observations)

- Schedule interviews with general education and special education teacher of 2 exemplary co-teaching pairs (2 interviews)

April 2015-
February 2016

- Analysis & Writing

March 2016

- Defense of Dissertation

Research journal. A researcher's journal was used to record reflections and analytic insights that emerged during the collection of data. The research journal provided the researcher with a tool for reflecting on his/her own thought processes and allowed the researcher to gain a deeper insight into the data set and methodological process (Dana & Yendol-Hoppey, 2009).

A research journal was started in June 2014 and used to document the research process from the development of the dissertation proposal, the submission of IRB paperwork, through each interview, observation, and informal conversation session, through coding, development of themes, analysis, findings, implications, and notes from each Skype session. The researcher used the journal to record any relevant information as well as any additional conversations the researcher engaged in with the identified teachers outside of the classroom setting.

Documents. Any and all documents generated by the co-teaching partners during classroom observations, or common planning periods for each scheduled observation were collected using a chronological format in a Word document. The documents provided the researcher with a deeper understanding of the instructional planning and presentation process the exemplary co-teaching partners employed to meet the needs of all learners.

Data Analysis

Creswell (2009) identifies six steps for analyzing data. The steps are as follows: (1) organize and prepare the data, (2) read through all the data, (3) code, (4) develop categories/themes for analysis, (5) determine how themes will be represented, and (6) interpretation (p. 189). Data analysis in this study was ongoing in nature; as data was collected it was analyzed simultaneously (Merriam, 2001). The data collected in this study was analyzed using the constant comparative method. The constant comparative method is defined as the researcher examining a particular bit of information from an interview, observation, field notes or research journal entry and comparing it with another incident. The comparisons in this study were made between each of the interviews/observations and the review of the researcher's journal entries.

Organized and prepared the data. The initial step in organizing the data was to create files for each type of data. Data were analyzed from observations, individual and co-interviews, notes from informal conversation sessions, and research-related documents. After all data was reviewed, it was imported into computer files and uploaded into Dedoose. In order to answer the first research question, the researcher began organizing the data by co-teaching pair so as to identify the characteristics of each exemplary co-teaching team. Additionally, the researcher color-coded the data by individual teacher so that when files were rearranged, the researcher was able to trace the data back to the specific teacher in each co-teaching pair.

Next, the researcher reordered the data to answer the second and third research questions which described the supports and barriers co-teaching partners experience in exemplary co-teaching pairs. The researcher looked at the responses of each co-teacher individually as well as across the responses of the co-teaching pairs.

Reading through the data. All data was read and reread adding memos to the margins (Merriam, 2009). Memos were used to record thoughts about general ideas and impressions related to co-teaching. This was the first step used in order to obtain a general sense of the information on co-teaching and to reflect on its overall meaning.

Coding the data. The researcher used a Priori and Inductive codes when analyzing the data. The a priori codes were derived from past literature on co-teaching (Creswell, 2009). The researcher was interested in finding codes that were related to the Self-Determination Theory (relatedness, competence, autonomy) or were identified in both the benefits and challenges section of the literature review. For example, the researcher looked for descriptive wording referencing volunteerism, communication, common planning periods, instructional roles, and professional development. In addition, inductive codes were derived from the researcher's knowledge of co-teaching practices and her experiences in directly examining the data. Codes that emerged from the data were collaboration, needs of students, rapport, appreciation, school-based supports, beliefs, challenges, teamwork, characteristics, and strategies. The researcher shared the data, codes, and categories with the dissertation group before finalizing a coding scheme. As the researcher finalized the codes, a qualitative codebook was created to define and organize the codes.

Developing categories. After my codebook was finalized, I sorted my data, using Dedoose by code. This means that I took information from all the data and rearranged them in new documents by common codes in order for me to look at relationships and similarities in the data. There were eleven codes in total, therefore there were eleven documents of transcriptions that matched each code. Strategies is an example of one of the eleven codes identified in the codebook. An example of one of the transcriptions listed under the strategies code is from the

1/20/15 interview of one of the Biology co-teaching partners. He stated, “It’s a lot of information and that is why we developed the new note packets.”

I chose to start with a deductive approach and within each document I summarized the transcriptions looking for similarities and differences as they pertained to my research questions. To strengthen my summaries, I included direct quotations from the data. I continued developing these summaries by looking for more evidence to support my findings (Merriam, 2009). During the last part of data analysis I moved away from being descriptive to analytical. Digging deeper to find meaning in the data led me to three major categories; teacher’s values and beliefs in relation to the co-teaching model, teacher’s instructional practices, and the structural supports of the co-teaching partnerships.

Determining how categories/themes will be represented. The findings of the qualitative design were described through the researcher’s eyes using vignettes to help the reader compare and contrast the differences between the two exemplary co-teaching partners. The vignettes presented in the research study were segments from observational and interview data of co-teaching pairs throughout the research study.

Interpretation of data. The researcher examined all data from interviews, observations, informal conversations, research journal, field notes, and documents to determine the meaning of the data as it related to each one of the research questions. The researcher compared the findings with information gleaned from the literature on co-teaching. The findings suggested new questions or areas which are in need more research.

Reliability and Validity

Using qualitative methods for this study presents issues of reliability and validity, (Creswell, 2009; Merriam, 2009). In order to address these issues, the researcher carefully

collected, analyzed, and recorded data from observations, interviews, and informal conversation sessions. The researcher used member checking with the participants to determine the accuracy of the information collected through informal conversation sessions scheduled in January 2015, March 2015, and April 2015. In addition, the researcher analyzed the transcripts from each of the interviews occurring in January 2015, March 2015, and April 2015 to ensure that the researcher has captured the essence of each of the interviews. The researcher also shared and received feedback from the dissertation group on the transcripts from both the classroom observations and interviews. To help with internal validity, the researcher used multiple sources of data including interviews, observations, field notes, document analysis, a research journal, and informal conversation sessions to compare and contrast data sources in order to triangulate the data to see if the codes held consistently across all data sources.

CHAPTER IV

Research Findings

This chapter describes the findings as revealed through an analysis of the data collected during this study. Insight into the co-teaching partnerships between a regular education teacher and a special education teacher was gained through semi-structured interviews, observations of the co-teaching relationship during instructional periods, and informal conversations following each classroom observation.

As I explored the three research questions of this study, a profile of the participants' perceptions, beliefs, and instructional practices with their respective co-teaching partner emerged. As the patterns surfaced, I created themes and sub-codes, coding the data based on a preliminary list of possible sub codes. After reading and rereading the data, three major categories of interest emerged: (1) Teachers' values and beliefs in relation to the co-teaching model, (2) Teachers' instructional practices, and (3) The structural supports of the co-teaching partnerships. My analysis and interpretation of the data revealed how each one of the co-teaching partners utilized and described what they understood as the essential traits of an effective co-teaching partnership. Before presenting my findings within these three categories, I will introduce each of the participants and provide a snapshot of each of the partnerships in action.

Introducing the Participants

Four high school teachers were selected for participation in this study. Each co-teaching pair is composed of one general education and one special education teacher. One of the co-teaching pairs teaches Modern World History while the other pair teaches Biology, both ninth grade courses. The History co-teaching pair has been teaching together for eighteen months,

although both teachers had previous co-teaching experiences with other partners at the secondary level. The Biology co-teaching partners have been teaching together for the past eight years.

In this section, I will provide a glimpse of how these teachers co-taught in inclusive classrooms. You will see how each co-teaching pair possesses many of the traits and implements instructive practices that are highly desirable to districts, and supported by the research on co-teaching. I will begin this section by presenting each teacher's educational background followed by vignettes outlining each team's co-teaching practices to help the reader better understand the essence of each pairs' teaching practice.

Meet the history co-teachers. Mr. Smith, the history content teacher, has been employed by Green Valley Public Schools as a high school history teacher for the past 19 years. He is a member of the National Social Studies Teachers Association, Green Valley Education Association, and the New Jersey Coaches Association of America. He has coached boys varsity and girls junior varsity basketball for 19 years in addition to serving as the assistant girls varsity softball coach for the past three years. During the 2014-15 school year, Mr. Smith, Mr. Casey, his co-teaching partner, and another high school social studies teacher taught a professional development course entitled, *Pathways to Student Achievement* for both special education and general education high school teachers. He is currently pursuing his Master's of Education in Curriculum, Assessment, and Instruction.

Mr. Casey, the special education teacher, has been employed by Green Valley Public Schools for the past five years. He served as a long-term leave replacement teacher at Green Valley High School prior to his full time special education teaching assignment. Mr. Casey is also a member of the National Social Studies Teachers Association, Green Valley Education Association, and the New Jersey Coaches Association of America. He is the assistant head coach

for the Green Valley High School Girls Soccer team and is the soccer trainer for the Green Valley Soccer Club. Mr. Casey has participated in a variety of soccer training clinics resulting in National Soccer Coaches Association of America (NSCAA) certificates in the fundamentals of coaching, goalkeeping, and professional development for high school coaches, as well as management of the game.

Mr. Casey is the least experienced teacher in the group of participants in this study. He will complete his fourth year of full time teaching at the end of the 2014-15 school year. He has experienced co-teaching with a number of general education partners since the beginning of his teaching career. He reported that the level of success with his co-teaching partners was inconsistent. Some partnerships worked more effectively than others. Prior to his co-teaching partnership with Mr. Smith, the balance between the content teacher and the special education teacher was often uneven. Mr. Casey holds a Grades K-12 certificate in Social Studies and recently completed his Master's degree in Special Education. Although he was qualified to teach social studies, he said that the majority of his co-teaching partners had difficulty sharing the instructional responsibilities in the inclusive classroom. Since being hired as a special education teacher, Mr. Casey reported he has received a minimum level of professional development in co-teaching but uses the strategies and skills he learns during the soccer coach clinics to enhance his co-teaching practice.

Both Mr. Casey and Mr. Smith have had other co-teacher partners prior to their decision to co-teach together. In those partnerships they said they utilized various co-teaching approaches including one teach, one assist, one teach, one observe, and alternative co-teaching approaches (See Chart 4 below for a description of co-teaching approaches as identified by Friend, 2014). Before making the decision to co-teach together, they discussed the successes and challenges of

their previous co-teaching experiences. They decided the co-teaching approaches they had previously implemented were not conducive to their desired model history classroom. They did not want their classroom to look like a traditional classroom with students seated alphabetically in rows. What they wanted was to develop a more interactive classroom environment. Both teachers have a strong knowledge of history and wanted to share the teaching responsibility equally while creating a more interactive student centered learning environment.

Chart 4: Six Co-teaching Approaches

Co-teaching Approach	Class Setup	Definition
One Teach, One Observe	Whole class	One teacher is in the front of the class leading instruction while the other teacher collects data on the student's academic, behavioral, or social skills.
Teaming	Whole class	Both teachers are in the front of the class sharing the responsibility of leading instruction.
One Teach, One Assist	Whole class	One teacher is in the front of the class leading instruction while the other teacher functions as a support in the classroom.
Alternative Teaching	Small groups	One teacher works with a large group of students, while the other teacher works with a smaller group of students.
Parallel Teaching	Small groups	The class is divided into two heterogeneous groups. Groups may be instructed in the same content in the same manner, same content in a different manner or in different content.
Station Teaching	Small groups	Students are divided into three, four or five small heterogeneous groups to rotate through stations or centers. Teachers can facilitate individual stations or circulate among all stations.

When I think about the co-teaching partnership of Mr. Casey and Mr. Smith, the history co-teaching pair, an image of tourists signing up for a bus tour comes to mind. I can easily imagine Mr. Casey and Mr. Smith standing beside the Modern World History Tour Bus greeting and welcoming tourists as they climb up the steps scanning the bus for the perfect seat. The

tourists, as on all buses, will be seated with one or two partners. I picture Mr. Casey in the front of the bus while Mr. Smith stands in the center announcing, “Welcome ladies and gentlemen to the Modern World History Tour.” I can imagine the guides instructing the tourists to take out their Modern World History itinerary and tour map. I can see Mr. Casey encouraging the tourists to look at their maps as he describes the points of interest on the bus tour. As Mr. Casey is referencing the map, the other tour guide, Mr. Smith is walking up and down the bus aisle stopping to respond to questions related to the points of interest along the tour. The tour guides have practiced and rehearsed the required information for the tour similar to planning instruction in the co-taught classroom.

The following vignette taken from the 1/20/15 observation provides a glimpse into Mr. Casey and Mr. Smith’s co-teaching practices.

1. At 9:57 am, the bell rang signaling the start of the class. Mr. Casey is standing in front
2. of the classroom greeting students and Mr. Smith. Mr. Smith is standing in the
3. middle of the classroom, acknowledging the greeting, and responding to Mr. Casey
4. saying, “Good morning Mr. Casey. Let’s see, is everyone here?” Mr. Casey and Mr.
5. Smith looked at each table grouping of three or four desks (pods) identifying three
6. missing students. After some discussion, Mr. Casey and Mr. Smith decided to move
7. several students. One pod group had only two students present. Each teacher directed
8. specific students to move and join another pod group for the purpose of balancing the
9. groups. Mr. Casey began class by instructing the students to take out specific
10. classroom materials, “Take out your Age of Reason shorts, 180-day go to guide, and
11. read and rank.” Several students did not have the required documents and were
12. immediately provided with a copy by Mr. Smith. Mr. Casey further explained,

13. “Please work in your groups to complete the read and rank...Mr. Smith and I will
14. distribute a form for each of the groups. Remember to list the activists, their ideas,
15. their communication systems and resources.” Mr. Casey paused and asked if there
16. were any questions. He waited several seconds, looking around the room for a
17. student’s raised hand. Since the students did not ask any questions, he glanced in his
18. co-teacher’s direction. Mr. Smith announced, “We will set the timer for the activity.
19. Each group should be prepared to share the information.” Mr. Smith and Mr. Casey
20. circulated around the classroom stopping at each of the groups. Each time a teacher
21. stopped at a group, he knelt down next to one of the students or pulled a chair into the
22. pod to sit down. The teachers appeared to observe the interactions of the students in
23. each of the groups. On several occasions, each one of the teachers joined one or more
24. of the group discussions. As the students were collaborating on the class assignment,
25. Mr. Casey directed their attention to the roadmap on the classroom wall. After
26. completing the discussion with the students, Mr. Casey walked over to the researcher
27. to explain the purpose of the large road map on the wall. After talking to the
28. researcher, Mr. Casey resumed monitoring the students’ progress on the read and rank
29. activity. He glanced toward Mr. Smith and announced, “Two more minutes and we
30. should be able to talk about Hobbes, Locke, Montesquieu, Voltaire, Wollstonecraft,
31. Rousseau, and Beccaria.” After the timer rang, Mr. Smith walked over to the roadmap
32. pointing to the revolution section of the map announcing, “Ok, why do revolutions
33. occur?” Several students raised their hands and were called on to respond to Mr.
34. Smith’s question.

As I entered the History classroom on 1/20/15, I observed both teachers in the middle of the classroom chatting with one another as the students entered the classroom. After several minutes, Mr. Casey moved to the front of the classroom while Mr. Smith remained in the center of the room (lines 2-3). As the bell rang, Mr. Casey began class by greeting the students and Mr. Smith. Mr. Smith acknowledged the greeting responding with a question regarding student attendance (lines 3-4). As I watched the co-teaching partner's interactions with each other, I witnessed the partners modeling effective communication skills for the students. An example is found on lines 5-9 as the teachers worked on solving a seating issue by listening to one another, communicating, and offering solutions to redistribute student seat locations.

The teachers openly collaborated and, at times, solicited input from the students. During this process, several students volunteered to move to other pod groups to assist the teachers. The teachers thanked the students but appeared to have a different plan in mind. The teachers were making tactical changes in the pod arrangements based on more than just the number of students. On lines 8-9 you can see how they appeared to move specific students based on their knowledge of the students as learners. The use of effective communication skills between the co-teachers is one of the added benefits of a co-taught classroom where students with and without disabilities have the opportunity to observe each teacher's interpersonal communication skills.

The Modern World History classroom was organized in groups of desks identified as pods. Four to six students sat together in each of the six cooperative learning groups as found on lines 5-6. Cooperative learning is an instructional method that has the following defining elements: positive interdependence, face-to-face interaction, individual accountability, social skills development, and evaluation (Voltz, Sims & Nelson, 2010). An example of cooperative learning can be found on lines 20-24. The pods allowed the students to work together to

complete the rank and read assignment found on line 13. Although the students worked on the assignment together, each student was responsible for submitting his/her own assignment.

The use of pods in the history classroom provided students with easy access to the teachers, increased the possibility of more students responding to and participating in small group discussions, and increased the teacher's ability to assess student understanding. The unique classroom configuration of pods enabled the teachers to effectively meet the needs of the diverse group of learners in the mixed ability classroom through the support, guidance, and feedback they provided to each of the students as they visited each one of the pods as evidenced on lines 23-24.

The teachers interacted and communicated with the students throughout the classroom activity. The teachers circulated around the classroom monitoring student progress by listening to the individual and group conversations (lines 19-23), commenting on their conversation, or discussing some aspect of the assignment. When visiting some groups, the teachers knelt down next to the pods, while in other groups, the teachers moved a chair to be part of the discussion as found on line 21. During each pod visit, the students welcomed the teachers. It appeared to the researcher that the History co-teaching partners have developed a positive and supportive learning environment to meet the needs of all students. This was evidenced by the interactions and discussions between the students and teachers throughout the lesson.

As I observed the History co-teaching partners, I noticed that the teachers stood in separate locations in the classroom, not usually sharing instruction in the front of the room as evidenced on lines 2-3, 20, 25, 26, and 31. As I observed the co-teachers' movements in the classroom during the discussion segment of the lesson on revolutions, I noticed that although the teachers were not together in the front of the classroom, they held all the students' attention as

they each moved around the classroom. During the classroom discussion, the students were observed to easily shift their attention from one teacher to another. The co-teaching partners were highly competent in presenting and discussing Unit II: Revolutions. They also demonstrated effective communication skills which enabled the students to easily follow the discussion despite the two teachers' frequent movements to various locations in the classroom as referenced on lines 2-3, 20, 26, and 31.

During the observation, Mr. Casey referenced a roadmap on one of the walls in the Modern World History classroom (line 25). The road map was drawn covering an eight-foot long section on a whiteboard depicting a winding road stretching from the left side to the right side of the map. A yellow school bus was drawn under one of the road signs identified as Unit II: Revolutions. During the observation, Mr. Casey walked over to me to explain the Modern World History Map (lines 26-27). He stated that the map represents the entire school year divided into four essential questions identified by umbrellas strategically placed throughout the map. The class was currently working on the second unit entitled, *Why do revolutions occur?*

Mr. Casey and Mr. Smith have developed a co-teaching approach that does not exactly fit into any of the descriptions listed on *Chart 3* (page 45) containing the six co-teaching approaches. They have developed a unique co-teaching approach that utilizes components of two of the co-teaching approaches in a creative and innovative manner. The partners use the teaming approach when delivering instruction to the whole-class with one important difference; the teachers are not standing in the front of the classroom delivering instruction as referenced on *Chart 3*. They are standing and moving to different locations in the classroom as they jointly share the instructional responsibilities in the Modern World History classroom. The co-teacher's movement within the classroom was discussed during the interview on 3/25/15. The history

partners were talking about the flow of instruction and their movement in the classroom. Mr. Smith stated, “The flow between us is natural, it just happens. I kind of laughed to myself yesterday about how often we move about the room. We’re not even talking to each other but are always revolving around the room.”

The use of the teaming approach was effective in the History co-teaching partners’ classroom because of each teacher’s extensive knowledge of history. According to Friend (2002), the teaming model is effective when teachers have a very comfortable relationship and can interchangeably contribute to instruction. However, Friend recommends only the occasional use of teaming because with teaming, students are traditionally taught in a whole class arrangement and miss the learning opportunities that come from small group instruction models. This recommendation is made by Friend because usually only one of the teachers is qualified in the content area associated with the class. In this co-taught classroom, however, both co-teaching partners are highly qualified in history and can interchangeably teach the Modern World History curriculum.

The second co-teaching approach Mr. Casey and Mr. Smith utilized is an approach similar to the station model utilizing pods as independent workstations. In the Modern World History classroom, the pods functioned as permanent stations with one important difference; the students did not rotate from station to station but stayed in their pod group throughout the lesson. According to the history co-teaching partners, “We have the students strategically placed in the pod groups so they experience the collaborative process (interview, 3/25/15).” The co-teaching partners closely monitored student progress and performance by visiting and interacting with students in each pod group. This creative co-teaching approach has allowed the teachers to

utilize both whole-class and small group instruction models throughout the lesson in the co-taught classroom.

The vignette presented above provided an opportunity for the reader to become better acquainted with the co-teaching practices of Mr. Casey and Mr. Smith. The vignette illustrated the effective use of co-teaching within a unique classroom seating arrangement of pods. The pod seating arrangement has been utilized by the co-teaching partners during every class period throughout the school year. The co-teaching partners implemented the pods in order to encourage the students to work together in cooperative learning groups. During the interview on 3/25/15, Mr. Casey and Mr. Smith talked about how they approach cooperative learning. They reported:

It's the students' job to collaborate in order to complete the assignment. We don't sit down with them right away because they need to learn how to work together. It's part of the learning process. After a couple of minutes, we will sit down with them and say, 'Alright, where are we at?'

Meet the Biology co-teachers. Mr. McCoy, the science content teacher, has been teaching Biology at Green Valley High School for 14 years. The list of his professional associations, activities, and recognitions include coaching the girls Varsity Soccer team for the past 12 years, active participation in the Green Valley Education Association, a member of the National Biology Teachers Association, and the New Jersey Coaches Association of America.

He serves as a teacher-mentor, Action club co-advisor, and was selected as the 2014 Green Valley High School Teacher of the Year. During the 2013-14 and 2014-15 school years, he has organized and implemented co-teaching workshops for new teachers as well as teachers new to the co-teaching model.

Mr. McCoy is a leader and supporter of the co-teaching model at Green Valley High School. During interviews and follow up conversations, he spoke about the benefits and challenges of implementing the co-teaching model at Green Valley High School. Mr. McCoy serves as a resource for teachers interested in learning more about the co-teaching model. He was an enthusiastic participant in this research study extending an invitation to the researcher to attend a professional development session on co-teaching scheduled prior to the start of the 2014-15 school year. In addition to co-teaching, Mr. McCoy shares the role of co-advisor of the Action club with his co-teacher. As one of the advisors of the Action club, Mr. McCoy works closely with high school students to support the district's special needs students during community events such as bowling, attending a movie, and after school sports programs sponsored by the Green Valley Advisory Committee for Disabilities.

Ms. Miller, the special education teacher of the co-teaching pair, has been employed by Green Valley Public Schools for the past eight years. Ms. Miller came to Green Valley with 11 years of prior special education teaching experience. The list of her professional associations and activities include participation in the National Biology Teachers Association, Green Valley Education Association, and the New Jersey Coaches Association of America. She serves as the Action club co-advisor and has coached girls varsity basketball for 19 years. Ms. Miller has worked closely with Mr. McCoy on organizing and implementing co-teaching training workshops. In addition, she attended a three-day co-teaching workshop during the 2014-15 school year. She and Mr. McCoy plan to continue to offer professional development workshops focused on effectively implementing the co-teaching model at Green Valley High School.

Ms. Miller serves as a teacher-trainer in implementing the co-teaching model in Green Valley High School classrooms. She has organized professional development workshops focused

on the components of an effective co-teaching partnership for new teachers in the Green Valley School District as well as teachers new to the co-teaching model. The professional development program included a series of workshops, visits to classrooms taught by teachers new to the co-teaching models, and debriefing sessions. Ms. Miller is credited with starting the Action club. The goal of the Action club is to make the Green Valley High School community more inclusive, encourage students to become leaders of social change, and to empower diversity. The students in the Action club work with their peers at Green Valley High School, and volunteer at many of the community events for children and adults with special needs.

Ms. Miller and Mr. McCoy reported that they were the first pair of science teachers at Green Valley High School to implement co-teaching in the Biology classroom. Prior to 2007, Green Valley High School supported special needs students in general education classrooms with the support of paraprofessionals. Paraprofessionals are valuable school personnel who assist teachers in many instructional tasks, but the support they provide is not an example of co-teaching (Friend, 2014). According to Ms. Miller and Mr. McCoy, their co-teaching practices have grown and developed over time. In fact, Ms. Miller and Mr. McCoy are often referred to as the co-teaching pair in Green Valley High School that has developed “*The Art and Science of Co-teaching*.” This reference is extremely complimentary to the Biology co-teaching partners since the Green Valley School District utilizes *The Art and Science of Teaching* (Marzano, 2007) model framework as its measure of effective instructional practices.

Throughout the past eight years, Ms. Miller and Mr. McCoy have experimented with a variety of co-teaching approaches in the Biology classroom. According to the teachers, the co-teaching models they have implemented change based on the instructional expectations, activities, and the needs of students. During the interview on 1/20/15, Mr. McCoy stated:

We try to mix up the different co-teaching approaches. Sometimes we divide the students in homogeneous groups while other times we group them heterogeneously. We'll mix it up all the time depending on the goal of the lesson. I think always being with different students is what it's really about.

The selection and implementation of the various co-teaching approaches may look different from classroom to classroom. As Ms. Miller and Mr. McCoy review the instructional objectives and needs of their students, they decide together the best way to structure the teaching and student learning for each lesson. The co-teaching partners use their notes and materials from the previous units and lessons as a planning guide for instruction. During co-planning sessions they discuss the content, analyze the students' needs in each class, decide how student outcomes will be assessed, and discuss the co-teaching approach that best aligns with each lesson. This was further evidenced by the Biology partners comments during the

Ms. Miller and Mr. McCoy consistently reflect on the effectiveness of the selected co-teaching model at the conclusion of each class period. In the following section I will present a vignette that demonstrates station rotation, one of the six co-teaching approaches identified by Friend (2014). In addition, the teachers' decision-making process to determine the best approach to implement, often applied in the moment, will be discussed.

In thinking about the number of co-teaching approaches Ms. Miller and Mr. McCoy have executed over an eight-year period, a metaphor comes to mind of a well-choreographed dance. In this dance, Ms. Miller and Mr. McCoy served as the choreographers meticulously planning and executing the instructional movements of the dancers (students). The choreographers are strategically placed in the classroom guiding and monitoring the movement of the dancers as they glide in and out of each well-choreographed co-teaching model.

On 3/18/15 Ms. Miller and Mr. McCoy began the lesson using the teaming approach and then quickly transitioned to a station rotation model. The students were divided into five heterogeneous groups for the lesson.

1. As the students entered the Biology classroom, Ms. Miller and Mr. McCoy stood
2. behind the laboratory table organizing materials for the lesson. They were finalizing
3. groups for the rotation activity and setting up the placement of stations in the
4. classroom. Both teachers greeted the students while moving throughout the room to
5. distribute the materials at each one of the stations. Ms. Miller commented to Mr.
6. McCoy, "I almost forgot, no homework review today... We didn't assign homework;
7. just review for the test." The bell rang and the teachers took turns describing the
8. five-station rotation and expectations for the lesson. Several students
9. communicated their enthusiasm for the activity announcing, "We love five-station
10. rotation!" Mr. McCoy read the names of students in each of the five groups while Ms.
11. Miller moved around the room identifying the location for each station. Mr. McCoy
12. instructed the students to move to one of three designated groups. He further
13. explained that he will be teaching a group in the front of the classroom while Ms.
14. Miller will be teaching a group at the back of the classroom. Once all the students
15. moved to their respective groups, the teachers took turns going over the expectations
16. of each station activity. Ms. Miller announced, "Station two is here. Open the folder,
17. read the directions, and assemble the puzzle. Check the key on the front board when
18. you are finished." Mr. McCoy stated, "Station three is over there. Put together the
19. cell cycle using the paper cutouts in the folder." Ms. Miller walked to the back of the
20. room announcing, "Station four is using a T-chart to compare asexual and sexual

21. reproduction.” Ms. Miller remained in the back of the classroom organizing materials
22. for station five while Mr. McCoy stood in the front of the classroom preparing
23. materials at station one. Mr. McCoy set a timer for 10 minutes. The students were
24. actively working together in each station on cell growth, division, and reproduction.
25. The teachers stopped instruction several times to check-in with groups two, three and
26. four throughout the 10-minute period. After the timer rang, both teachers checked in
27. with each group. Each group requested five additional minutes. After five minutes,
28. the students were instructed to move to the next station.

Ms. Miller and Mr. McCoy began class on 3/18/15 using the teaming approach (lines 7-8). The two teachers took turns describing the five-station rotation and expectations for the lesson. At the beginning of the class period, the co-teaching partners were at the front of the classroom organizing materials and reviewing the list of rotation groups they had developed during a co-planning session (lines 1-2). Both teachers moved freely around the room openly communicating with each other while placing folders/materials at five different areas in the classroom (lines 4-5). As the students arrived, they observed the teachers moving around the room and they easily figured out the day’s activity. As cited on lines 9-10, the students were excited by the selection of the five-station rotation activity as several students announced, “We love five-station rotation!”

The student groups and instructions were communicated using the teaming approach with both teachers contributing equally. Mr. McCoy read the names aloud while Ms. Miller identified the rotation sites within the classroom (lines 10-11). According to Murawski & Dieker (2012), the station rotation approach ensures kinesthetic movement, brain breaks, chunking of content, smaller student-teacher ratios, and an opportunity for more differentiated questions or activities.

The five rotation sites were located in separate areas of the Biology classroom. Four to five students were assigned to each one of the five station groups.

Once the students moved to their respective station groups, a timer was set for 10 minutes (line 23). During the five-station rotation model, the teachers instructed their respective groups while checking the progress of the independent groups through observation and verbal check-ins evidenced on lines 25-26. Each teacher stopped instruction for a brief period of time asking a specific group of students how they were progressing with the station activity (line 25). At the conclusion of the 10-minute period, the teachers collaborated with each other as well as with the three student groups regarding each group's progress as evidenced on lines 25-26.

It was evident from the lesson that the teachers are highly skilled in implementing the station teaching approach. It is interesting to note that the teachers took turns explaining and identifying the location of each of the station activities. It did not appear that the teachers had rehearsed the back-and-forth instructional delivery between each other; rather it occurred naturally as a result of their familiarity and comfort with each other as co-teaching partners as evidenced on lines 16-20. The lesson using teaming and station teaching was well organized, planned, and executed.

Following the lesson, I had the opportunity to meet with the Biology partners to talk about the observation. I learned that Ms. Miller and Mr. McCoy had utilized a two, three, and four station rotation model in previous lessons, classes, and years. In order to figure out the number of station activities, the co-teaching partners stated that they collaboratively discuss the instructional goals of each lesson and carefully plan student groupings for the rotations based on the student's skill level, ability to work cooperatively, and level of independence.

The co-teachers reported that they had selected the station rotation approach for this lesson because it provided an opportunity for the teachers to differentiate instruction within smaller groups of students. During the 1/20/15 interview, Mr. McCoy described the station rotation approach. He said, “We love station rotation. It’s a big one for us, whether it’s designed as a classroom activity or lab. We like it because we are able to differentiate the high, middle, and low students into mixed ability groups.” They designed the activities in each of the stations based on their knowledge of the students, IEP considerations, and the instructional goals of the lesson. The activities at the independent stations were purposely designed to foster cooperative learning. As evidenced on lines 23-24, the students worked together and were actively involved in the station activities.

During the informal meeting, the teachers stated they would be debriefing on the cell cycle lesson during their lunch period. Ms. Miller and Mr. McCoy reported that they frequently meet prior to their second co-taught class for a debriefing session. During the debriefing session, the teachers will discuss their individual observations of the different stations and brainstorm ways to improve instruction using the rotation model. Based on their discussion during debriefing sessions, the co-teaching partners reported that they have both increased and decreased the number of rotation groups, revised the station activities, or changed the composition of student groups.

Ms. Miller and Mr. McCoy stated that they were satisfied with the five-station rotation lesson and planned to increase the amount of time in each station from 10 to 15 minutes for their afternoon Biology class. According to Ms. Miller and Mr. McCoy, the students would be finishing the remaining stations in the rotation during the next Biology class session.

Throughout the observation it was clear to the researcher that Ms. Miller and Mr. McCoy are comfortable and confident in their ability to teach Biology in the inclusive classroom. This is evidenced by the good rapport they share with each other as well as with the students. Ms. Miller and Mr. McCoy demonstrated strong interpersonal communication skills throughout the lesson (lines 16-23). They openly communicated and interacted with each other serving as positive role models demonstrating effective communication skills for students. As evidenced on lines 4 and 26, the partners greeted the students as they arrived and asked for student feedback during the station activities. Ms. Miller and Mr. McCoy have experiences that extend beyond the Biology classroom with many of their students participating in the Action club or on a high school sports team.

The vignette presented above provided an opportunity for the reader to become better acquainted with the co-teaching practices of Ms. Miller and Mr. McCoy. The vignette illustrates the versatility of the partners' instructional practices as they effectively planned and implemented the co-teaching approaches of teaming and station teaching during the classroom observation on 3/18/15.

The presented vignettes of each co-teaching partnership have given the reader an opportunity to have met these four teachers and seen a glimpse of their co-teaching practices. The following three sections will look across the co-teaching pairs to discover common themes that help to illuminate what makes their partnerships work. The researcher begins with an in-depth look into the values and beliefs that make up each partnership, followed by the examination of each team's co-teaching practices, and conclude with the identification of structural supports that the teams utilized in establishing and sustaining their co-teaching practice.

Co-teaching Values and Beliefs

In this section I will provide a more in depth look at the values and beliefs that make up each of the co-teaching partnerships. Values and beliefs are defined as a set of principles that guide co-teaching practices. An analysis of the data revealed that part of what defined these pairs as exemplary, were a set of shared values and beliefs which were identified as their commitment to co-teaching and to their partner, the language that both sets of partners use when talking to and about each other, and the influence that sports coaching has had on their co-teaching styles.

Commitment to co-teaching. The four participants in this study are highly supportive of the co-teaching model and view their experiences with their co-teaching partners as positive and highly productive. Both teaching pairs define their co-teaching practice as combining the talents of a content specialist focused on the understanding, structuring, and pacing of the curriculum with a special education teacher specializing in enhancing the curriculum and instruction in order to meet the unique needs of all learners in the inclusive classroom. This is evidenced by Mr. Smith's comments during an interview on 3/25/15. He stated:

There is no question that the effectiveness of two professionals in a classroom outweighs the quality of education students receive with one teacher in a classroom. Co-teaching allows teachers to really address the needs of every student in the classroom that is not possible with only one teacher.

During the interview on 1/20/15, Mr. McCoy stated, "As good as one teacher is, two teachers are going to be better in terms of meeting the needs of students. Co-teaching lends itself to differentiation."

Both co-teaching pairs possess a commitment for all students to learn and succeed, and

demonstrate a strong belief that teaching in a co-teaching partnership is more effective than teaching alone. During the 2/27/15 interview Mr. Smith reported:

We firmly believe that every child has the opportunity to improve. Our main job is to come up with as many methods and strategies as we can. We feel that the biggest key is to be very clear and very open to what the students are going to learn. There is a saying in basketball, know what to do, know how to do it, and do what you've been taught.

During the same interview, Mr. Casey talked further about the partners' teaching beliefs. Not only do Mr. Casey and Mr. Smith believe in the effectiveness of the co-teaching model, they believe that their partnership is effective because they have similar beliefs and values about teaching. Mr. Casey stated:

We have a shared vision for our classroom. We believe that all students are capable and we want them to continue to grow. We believe passionately that students need opportunities to work in group. We want them to be able to function in the real world. Functioning in the real world and being successful.

Ms. Miller and Mr. McCoy quickly discovered they shared similar teaching beliefs. "The big thing for us is we share a similar philosophy in that we really want to reach the needs of all learners, but not to the extent of minimizing the curriculum," stated Ms. Miller during the 2/27/15 interview. During the interview on 1/20/15, Mr. McCoy stated, "We learned to keep it simple. We talked about things we must do, things we have to do for our own sake and the sake of the partnership."

The co-teaching partners are committed to co-teaching and their respective co-teaching partners. They feel that the pairing of a general education teacher with a special education teacher provides a greater opportunity for teachers to share their individual expertise in meeting

the needs of all learners. Each pair believes that all students in the inclusive classroom can learn and succeed by identifying the needs of the students, and the use of effective teaching and learning strategies. This is further evidenced by a quote by the Biology co-teaching partners during the 4/10/15 interview. The partners stated,

We are very comfortable with each other. I think that's what makes co-teaching so rewarding. Trusting each other to accomplish our goals with the students' best interest in mind. Without trust, we wouldn't have the relationship we currently have.

Co-teaching language. Beyond sharing beliefs, the co-teachers shared a way of talking. A striking characteristic of both pairs is the language they use when speaking of the co-teaching team. This was evidenced during observations and interviews as I noticed both co-teaching partnerships using the words “*we*” and “*our*” when referring to their partnership.

The “*we*” reference was previously cited during the observation of Mr. Casey and Mr. Smith on 1/20/15. During the observation, the co-teaching partners were explaining the expectation for the read and rank activity. Before starting the activity, Mr. Smith announced, “*We* will set the timer for the activity.” On 3/18/15, the teachers distributed several handouts announcing, “*We* are about to give you two documents, a template called *Demystifying the DBQ*, and another one called *The DBQ is your friend... We* don't want you to be scared of working with these documents.” The use of “*we*” was also observed in the classroom observations and interviews of Ms. Miller and Mr. McCoy. “*We*” is an example of how the teachers feel about their co-teaching partnership. They are part of a team; a team made up of two educators with different, yet effective, skill sets working together to meet the needs of a diverse group of learners in inclusive classrooms.

The Biology co-teaching partners also referred to each other as “*we*” throughout the observations and interviews. During the classroom observation on 1/20/15, Ms. Miller and Mr. McCoy announced, “*We* are available after school to review cell transport for the upcoming quiz.” Additionally, during classroom observations and interviews, the co-teaching partners use “*our*” when referring to their co-teaching partnership. This is evidenced by Ms. Miller’s comments during the interview on 3/25/15. She stated, “ We use *our* teacher pages to provide general information such as resources, packets, and supplement websites or power points.” The co-teaching partners co-plan, co-teach, co-direct a high school club, and share a co-teaching website listed as Miller-McCoy. They collaborate together to provide students with a meaningful experience in Biology.

The coaching influence on co-teaching. The four teachers selected for this research study have more in common than being co-teachers at Green Valley High School. They all participated in sports at both the high school and college level, and are currently coaching a high school sports team. During the interview with each co-teaching pair, I learned how the teachers use their experiences and knowledge of coaching to grow and develop their co-teaching practices.

During the interview on 2/27/15, Mr. Casey and Mr. Smith talked about teaching and coaching. Throughout the interview, I quickly became aware of the influence of the teachers’ experiences as a player/coach and how this influence was generalized and applied to the co-taught classroom. The history co-teachers share the vision of a team working together to reach a common goal, the mastery of the Modern World History curriculum.

The reference to a team was evidenced by Mr. Casey’s comments during the 2/27/15 observation. He stated, “When you are part of a team, or leading a team, one of the fundamental

principles of being in that environment is that you have to be able to trust others to do their job.” He added, “So playing sports your whole life, you learn to trust people, challenge people, but also empower your teammates. And, for me, it is one of the reasons, we get along so well.” After listening to his co-teaching partner, Mr. Smith shared similar comments; “I think in sports, you bring your talents to the team to make the team work. I think we do that pretty well sharing the same vision.”

During the interview on 4/10/15, Mr. Casey shared a book, purchased at one of the soccer workshops he recently attended, with me entitled, *The Modern Soccer Coach 2014*. He explained as a soccer coach, he is required to attend soccer clinics and workshops to maintain his coaching certification. Mr. Casey reported that he applies the strategies he learns in the soccer clinics to his co-teaching practices. This is evidenced by Mr. Casey’s comments during one of the interviews. He stated, “I go to soccer clinics and I am watching them coach. The more I watch the coaching, I see it is about teaching. There is little difference between what you do when you are coaching than what you do in the classroom. The only difference is the content that is taught (interview 3/25/15).”

The co-teaching partners use the term *optimization* to describe their expectations for student growth in their history classes. They define *optimization* as growth in all different directions occurring at the same time. The term was originally introduced to Mr. Casey at one of the soccer clinics and later discussed with Mr. Smith. The co-teaching partners agreed to use the term *optimization* in place of potential to describe student growth. They reported they do not use the word *growth* in their classes, as they believe *growth* is seen as a linear process.

Other sport-related references are evident on the history co-teachers’ website. One of the teachers’ expectation for mastery of the Modern World History course is the completion of the

Modern World History 180-day “go to” guide. The guide was developed by the co-teaching partners based on the concept of each student meeting his/her goal. Students are reminded on each page of the guide to reflect on their progress in meeting their individual goals by answering the question, “What did you do today to bring you one step closer to your goal?” Mr. Casey and Mr. Smith reference the 180-day “go to” guide during each class period. The guide provides a yearlong outline of the understandings, terms, and essential questions of the Modern World History Curriculum.

Similar to the history co-teachers, the Biology co-teachers are high school coaches. Each partner was previously involved in sports at both the high school and college level. The following comments were recorded during the interview with Mr. McCoy on 1/20/15. He stated, “Teaching is a team sport. I’m a sports guy, and you don’t teach alone. I am fortunate to have a co-teacher that knows the content.” Ms. Miller provided the following comments during the 2/27/15 interview. She stated, “We use the principles of coaching in the classroom; encouraging, supporting, and trusting students. We tell students, you are only going to get out what you have put in, so put in the most you can.” The students are expected to complete homework regularly, arrive on time to class, participate in class discussions, and meet with teachers for review sessions prior to an assessment.

Co-teaching Practices

This section will provide a closer look at the practices exhibited by the co-teaching partners. These practices provide evidence of the strength of these teams, and they also provide a window into how good teams work together. The specific characteristics that existed in these strong co-teaching partnerships are the use of verbal and nonverbal communication systems that allowed the teachers to model effective ways to listen, communicate, solve problems, and

negotiate with one another in each co-taught classroom and the creation of a variety of co-teaching tools that further enhanced each co-teaching partnership.

Communication. Effective interpersonal communication is essential in the co-teaching relationship (Gately & Gately, 2001). For the purposes of this study, communication is defined as the exchange of ideas between the co-teaching partners presented through verbal and nonverbal means. In this section, I will discuss how the co-teaching partners communicate with each other in these inclusive classrooms through open discussions, and the development of verbal and nonverbal communication skills.

Open communication. Clear, open, and continuous communication is vital to successfully implementing a shared curriculum (Dettmer et al., 2015). The greatest obstacle to successful co-teaching is often the lack of preparedness of the educators involved (Dettmer, Thurston, & Dyke, 2005). For both of these pairs, their commitment to good communication began before they started working together. Each set of co-teaching partners engaged in lengthy discussions prior to the decision to co-teach together.

As previously cited, Mr. Casey and Mr. Smith discussed their prior co-teaching experiences, their philosophy of education, and their interest in developing a student-centered classroom when considering the possibility of a co-teaching partnership. Ms. Miller and Mr. McCoy discussed the logistical factors of sharing instruction, and communicating their educational philosophy. Mr. McCoy stated, “We met to talk about co-teaching together because of the merging of CP1 and CP2 and the need to educationally support learners so that they could access the curriculum (1/20/15 interview).” The reference to College Preparatory 1 and 2 refers to the academic level of classes. Eight years ago, the Green Valley School District reduced the number of academic levels offered by consolidating two college preparatory classes into a single

level class. This change in academic levels provided students with opportunities to enroll in co-taught content classes. The open discussions each partnership engaged in prior to the implementation of the co-teaching model has been the cornerstone of their co-teaching practice.

Verbal communication skills. Co-teaching requires a commitment not only to working within a partnership, but also in the development of new competence in communicating frequently and effectively with fellow teachers (Gately & Gately, 2001). After committing to a co-teaching partnership, the teachers worked to develop their co-teaching practice through the use of both verbal and nonverbal communication skills. Verbal communication skills are defined as the skills teachers use when sharing information with one another, making decisions, solving problems, and managing conflict. The researcher observed examples of effective verbal and nonverbal communication throughout the classroom observations.

During each of the six classroom observations, both pairs of co-teaching partners communicated with one another prior to the start of the class period. The Biology co-teaching pair was observed to review the lesson plan, organize the classroom, and check materials to ensure they had all the required documents for the class period. The History co-teaching pair was observed to openly communicate in finalizing the details of the lesson prior to the start of the class.

The co-teaching partners talked openly to one another throughout each classroom observation. During the 1/20/15 observation, Ms. Miller informed Mr. McCoy of her intention to work with a student that had missed several days of school. During the station rotation observation on 3/18/15, Mr. McCoy and Ms. Miller set a timer and would check with each other and the students before moving to another station. In the observation on 4/10/15, Ms. Miller

openly communicated with Mr. McCoy to inform him of the status of the lesson, requesting additional time for completion of the activity.

Mr. Casey and Mr. Smith discussed their communication style during one of the interviews stating, “We have our discussions that most people might hide. We think it shows our thought process. We have those conversations openly, sometimes across the room.” The history co-teachers’ open communication style was seen during each of the classroom observations.

This was evidenced during the observation on 3/18/15 of Mr. Casey and Mr. Smith. During the observation, the teachers introduced the Document Based Question (DBQ) concept for the first time. Communication, humor, and a high degree of comfort punctuate the co-teaching, collaborative classroom (Gately & Gately, 2001). The teachers interacted using a back and forth style of communication. Mr. Casey began the introduction to the DBQ. Mr. Smith responded by asking, “Mr. Casey, should we hop into the DBQ?” Mr. Casey responded, “Ok, time to hop into the DBQ.” Mr. Smith announced, “On the count of three, we are all going to say, *“The DBQ is our friend, ready?”* The students responded, repeating, *“The DBQ is our friend.”* This is one of many examples of the co-teaching partners’ communication style. The ongoing open communication style between all four co-teachers occurred throughout each class period. By using an open communication style, the teachers serve as positive role models of effective communication skills for students.

Non-verbal communication skills. Additionally, non-verbal communication such as glances, nods, and gestures were observed during each of the classroom observations of both co-teaching partnerships. During the classroom observations, Ms. Miller and Mr. McCoy implemented a variety of co-teaching models (alternative teaching, station rotation, parallel teaching). Each co-teaching model implemented required the co-teaching partners to check in

with his/her partner. The checking in process was evidenced by a glance or a head nod. An example of non-verbal communication is evidenced in the interview on 2/27/15. Ms. Miller reported, “ I am usually the homework checker. I keep all the data, and Mr. McCoy usually inputs the grades into the student information system.” While Ms. Miller checked homework, she recorded the status of each student’s homework assignment in her plan book. She communicated to Mr. McCoy through an occasional nod or glance indicating who had completed homework as well as the students who had an incomplete homework assignment.

Similar to the Biology co-teaching pair, the history partners demonstrate non-verbal communication in each of the classroom observations. During the observations, Mr. Casey and Mr. Smith were observed in different locations in the classroom throughout the lesson. They each moved around the classroom never being in the same area at the same time. They were observed to glance, nod, and gesture to each other during the lesson. During one of the interviews Mr. Casey stated, “I kind of laugh to myself when I think about how we move around the room. We’re not even talking to each other but always know where we are in the classroom and where we are in the lesson (3/25/15 interview).”

In the previous sections I have broken down the minute details of how these four co-teachers interact with each other, yet, even that discussion does not capture the extent of their communication skills. When you walk into these co-taught classrooms and sit down to observe the interactions between the teachers and the students, what you see is a well-choreographed dance between two teachers. The choreography of this dance includes two teachers who respect each other, continue to talk to one another even when they are in front of the students, and demonstrate a range of verbal and nonverbal methods of communication. In addition to the ways

this dance allows the teachers to teach well, it allows them to be positive role models for the development of effective communication skills for students.

Creating the personalized tool kit. For the purposes of this study, the personalized toolkit is defined as the procedures, strategies, materials, resources, and ideas that each co-teaching pair has found to be effective in collaborating to meet the needs of a diverse group of learners in the co-taught classroom. In this section, I will discuss how the history and the Biology co-teachers have each created unique instructional tools. The collaborative creation of the tools developed by each co-teaching partnership involved a significant amount of each partner's time, energy, planning, and content expertise. The time and energy each partnership spent creating these tools provided an opportunity for the teachers to learn more about each other as individuals and co-teaching partners.

Modern world history roadmap. The roadmap previously cited in the 1/20/15 observation is an instructional tool developed by Mr. Casey and Mr. Smith to provide the students with a clear picture of the yearlong expectations and requirements for their Modern World History class. The roadmap was originally created during their first year of co-teaching as a way to be more transparent about the flow and sequence of units of study for both students and parents. It was creatively drawn on an eight-foot long whiteboard located on one of the sidewalls in the classroom. The roadmap was displayed on the classroom wall throughout the entire school year.

During the interview on 4/7/15, Mr. Casey and Mr. Smith discussed how the modern world history roadmap was created. Mr. Smith stated:

We sat there, I'm guessing for almost two or three days just drawing, and redrawing the

road. At first, the road was one color and straight and then we decided to add bends to it.

Next, we added words. We started off with a list of random words and added different colors. Each step in the process provided more clarity for us.

The Modern World History Roadmap was modified numerous times during the co-teachers' first year together. "We continued working on it together until we were 100% satisfied," stated Mr. Casey (4/7/15 interview). The co-teaching partners continued to make changes to the roadmap during the 2013-14 school year. Several photos of the map were taken before it was erased at the end of the school year. The photos of the roadmap were used to guide the planning of a new and improved roadmap for the 2014-15 school year.

Prior to the start of their second year together as co-teaching partners, Mr. Casey and Mr. Smith met to design their Modern World History Roadmap for the upcoming school year. The development of the second roadmap was a continuous process, involving many of the original elements with several changes. The changes were a series of bends in the road, the addition of a modern world history bus, and several new history related activities. Mr. Casey and Mr. Smith physically move the bus to stop at each of the units of study throughout the yearlong modern world history journey. The co-teaching partners described the roadmap as, "It is history. It is a living graphic organizer. It has the ability to change and it is flexible over time (4/7/15 interview)."

The Modern World History Roadmap was added to the co-teachers' web page at the beginning of the 2014-15 school year to provide additional supports for students outside the classroom. During the second year of their co-teaching partnership, an interactive feature was added to the roadmap linking the additional resources of timelines, power points, and prezis. The photo of the Modern World History Roadmap (Figure A) is included below.

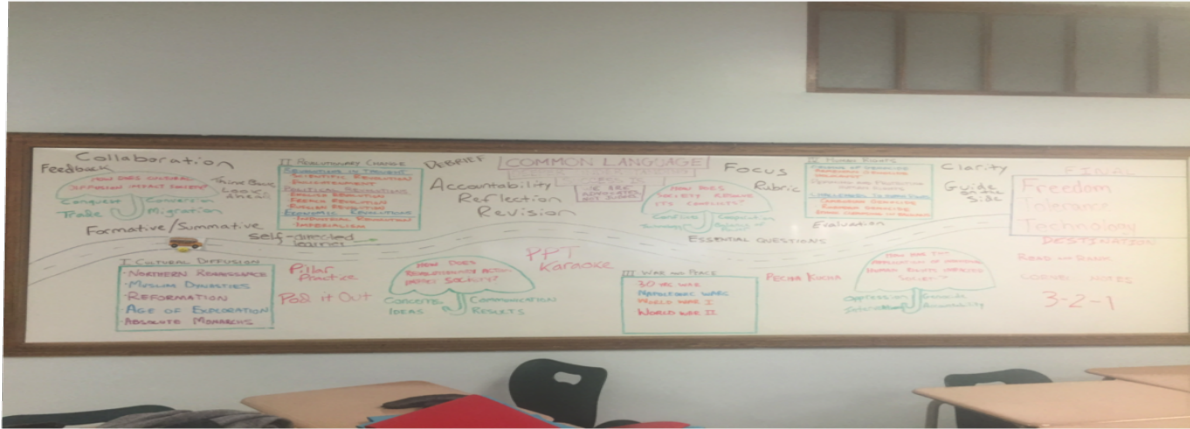


Figure A. Photo of The Modern World History Roadmap submitted by Mr. Casey and Mr. Smith, history co-teaching partners on 11/10/15.

The Modern World History Roadmap is a creative and effective visual tool developed collaboratively by both Mr. Casey and Mr. Smith. The roadmap serves as a yearlong visual representation of the modern world history curriculum available for both the students and the co-teaching partners. And, in addition to helping the students, it enables the co-teaching partners to be “*on the same page*” throughout the year. As previously cited in the classroom observation (3/18/15), the roadmap is used as a reference throughout classroom discussions.

I observed the students and teachers referencing the roadmap throughout each of the classroom observations. The roadmap served as a ready reference similar to an alphabet or number line strip found in elementary classrooms where learners check letter or number configurations to ensure proper formation. It served as a visual support for both the learners and teachers to access during instructional periods providing common vocabulary, a predictable sequence of skills and concepts, as well as classroom activities introduced during each of the four units of study.

During their second year of their co-teaching partnership, Mr. Casey and Mr. Smith added the Modern World History Roadmap with interactive links to their Casey-Smith teacher web page. This provided access to the roadmap for students both in and outside of school. Mr.

Casey and Mr. Smith continuously create a way to teach history using their skills and their understandings of history that makes a difference for students. In creating the roadmap, they start the school year on the same page, continuously contributing to the development of it as full collaborative partners, and share in the experience of making the history class their own. The creation of the Modern World History Road Map is not only an expression of the co-teacher's partnership, it has helped the partnership grow and develop over the past 18 months.

Reflective journal. The history co-teaching partners also use a shared journal to capture their reflections and thoughts during or following their co-taught class periods. The reflective journal is located on one of the teacher's desks in the back of the classroom. The co-teaching partners came up with the idea of the journal when they found themselves reflecting on their co-teaching practice. "Sometimes we reflect at the end of class or the end of the day. We feel reflection is vital to our partnership. It was Mr. Casey's idea to write it down in a journal," announced Mr. Smith during the interview on 2/27/25. According to Mr. Casey:

We wanted to create a physical space in our room that the second we have an idea we can just write it down ... These are ideas that pop into our minds about how we can improve our practice for next year (interview 2/27/15).

The co-teaching partners have titled their reflective journal, *Cogita et movere deinceps*, meaning reflect and move forward. The partners write in the journal whenever an idea, strategy, or new way to teach a skill emerges. This is the second year that Mr. Casey and Mr. Smith are using a reflective journal. According to the partners, "We often take out the journal from last year to reference notes from the specific units of study (interview 2/27/15)." The partners shared both reflective journals with me during the 4/10/15 interview. Both journals were filled with notes organized by date and unit of study.

The reflective journal is a shared tool used to help grow and further develop their co-teaching practice by the recording of ideas, thoughts, and procedures to be collaboratively reviewed by Mr. Casey and Mr. Smith. The partners use the journals as reference tools throughout the school year. They will use the shared reflective journals in planning for the upcoming school year.

Co-teacher web page. One of the most frequently visited websites by students in collaborative classes is the co-teacher web page section on the Green Valley High School website. This co-teacher section was added at the beginning of the 2014-15 school year to the teacher section on the school's website. Ms. Miller and Mr. McCoy collaborated with the school administration in the development and addition of the co-teaching section. Since they were co-teaching and co-planning together, they wanted a co-teacher web page. According to Ms. Miller, "We teach together, plan together, present at back to school night together, and send emails signed by both of us. It seemed logical to have a shared web page (interview 2/27/15)." The History and Biology co-teacher pages are two of the 16 co-teacher pages listed under the co-teachers' section of the teacher pages on the Green Valley High School website.

The addition of a co-teachers' section to the high school web page enables students and parents to easily access the information on the co-teachers' website. Since both exemplary co-teaching partners actively use the web pages to post daily updates, reminders, links, resources, schedules, homework assignments, review guides, and answer keys, it is important for students to be able to easily access the information.

Miller-McCoy co-teacher page. Ms. Miller and Mr. McCoy's co-teacher page on the Green Valley teacher web page is a comprehensive web page listing all the required documents for students enrolled in the inclusive Biology course. The co-teaching partners have closely

collaborated over the past eight years in developing a co-teacher Biology page that each student is required to access on a regular basis. According to the course requirements as outlined on the co-teachers' Biology web page, students are required to print note packets, unit study guides, lab activities, worksheets, flash cards, formative assessments, and take-home assessments on their home computers. Additional resources listed include links to unit related activities.

The Biology teacher page is located under the Miller-McCoy link on the co-teaching page of the Green Valley High School web page. When one clicks on the teacher page, one will see both teachers' names, contact information, and office hours. The left side of the page has a listing of four different links. The first link is identified as *Welcome*, followed by a second link entitled *General Information*. Period two and period four homework are the last two links on the co-teaching page. The reference to periods two and four are the co-taught Biology classes currently assigned to Ms. Miller and Mr. McCoy during the 2014-15 school year.

When you click on the *Welcome* link, you will open a four-page document outlining the teachers' expectations, required supplies, online textbook access, overview of the seven units of study in Biology, student responsibilities, grading procedures, extra help, and additional contact information. The additional contact information listed encourages parents and students to email both Ms. Miller and Mr. McCoy with any questions/concerns they may have.

The second link listed is *General Information*. The *General Information* section is a comprehensive list of each unit's note packet, activities, homework packet, study guide, and resources. This is the area in which the co-teaching partners have closely collaborated to develop materials and resources that will effectively prepare students for the state mandated New Jersey Biology Competency Test at the end of each school year. According to Mr. McCoy:

There is a tremendous amount of information that students need to know and that is the

biggest reason why we developed note packets....Students were taking notes but not taking down the most important information. We developed packets, every concept, every term, with visual supports. If students are absent, or they just did not record the answer accurately, the information is on our website (interview 1/20/15).

During the 1/20/15 observation, I observed the teachers' using the Unit 3B: Cell Membrane and Transport note packet to review for an upcoming quiz. The previous night's homework assignment was to complete two pages of the Unit B: Cell Membrane and Transport note packet. Mr. McCoy projected the note packet using the LCD projector on the whiteboard in the front of the classroom selecting students to go up to the board to fill in the required responses. Each note packet developed by the Biology co-teachers was created using a landscape format with a division in the center separating it into two pages. Each packet was identified by unit and topic, and filled with information aligned with each unit, vocabulary words, pictures and graphics. The Unit B: Cell Membrane and Transport note packet is 15 pages long.

Once the packets are completed, students use them to study for each unit assessment. According to Ms. Miller, "Homework keys are posted two nights before a test so that students can double check to make sure they have the right answers in case they miss something (interview 2/27/15)." Because Ms. Miller and Mr. McCoy are highly qualified in Biology, they were able to work together to design the note packets using the *Understanding by Design* curriculum model. In the *Understanding by Design* model, the Biology co-teachers started with the end of each unit and the desired outcomes for all students. They then aligned their teaching strategies and learning activities to help students achieve the desired results. What is important to note is the special education and general education teachers have found a way to use their unique skills and expertise to create a new tool designed to meet the needs of the diverse group of

learners in the inclusive Biology classroom. The collaborative development of the note packets has made a significant difference for many of the students in the co-taught classroom.

Development of Structural Supports

In this section I will identify the structural supports that allowed these four teachers to become exemplary co-teaching teams. Although each partnership is decidedly unique, each co-teaching pair has experienced a similar process of committing to, establishing, and developing an effective co-teaching partnership.

Volunteering. Each one of the co-teaching pairs volunteered to teach together. Their decision to volunteer with their partners happened differently, but ultimately they all chose, rather than being assigned, to be co-teaching partners. For Mr. Casey and Mr. Smith, the decision to volunteer to co-teach together at the beginning of the 2013-14 school year was based on their knowledge of each other in Green Valley High School. The teachers were both in the history department and had previous experiences of co-teaching with other partners. During the 2/27/15 interview, Mr. Smith verbalized his reasons for choosing Mr. Casey:

I have seen how great Mr. Casey is with the students and, even in talking to him, it seemed like we shared the same ideas. He's one of the best, if not the best, special education teacher that I've seen. So if you want to be the best, you have to team up with the best.

During the same interview (2/27/15), Mr. Casey communicated similar feelings about Mr. Smith. He stated:

I believe that if you want to be the best, you have to work with the best. To me, he is one of the best history teachers in the school. I look at our new partnership as being able to learn from him, not only in history but overall in my teaching.

For Ms. Miller and Mr. McCoy, the decision to volunteer to co-teach came about in response to learning that there would be a pilot co-taught Biology class added to the high school schedule. The Green Valley Public School District had moved to a single level college preparatory model and wanted to offer a co-taught Biology class option for students with disabilities. The partners had little co-teaching experience, but were excited about the prospect of working together to implement the Biology curriculum in an inclusive classroom. During the 1/20/15 interview, Mr. McCoy shared his enthusiasm by stating, “I was offered the opportunity to work with Ms. Miller. It was new and challenging. I never had a true co-teacher; only classroom assistants and that wasn’t truly co-teaching.” Ms. Miller was equally excited and committed to their new partnership. During the 3/25/15, she shared, “I think the co-teaching experience with Mr. McCoy will be awesome. I am looking forward to growing our co-teaching practice together.”

Providing teachers with the opportunity to request a co-teaching partner is unusual. In the Green Valley Public School District, teachers interested in co-teaching will often volunteer to teach with a colleague but there is no guarantee the request will be granted. The administrative staff designs the high school teaching schedule based on the number of co-taught sections outlined in the master schedule. Scheduling co-teaching partners with the same teacher, at the same grade level, and content area is a challenging process. Most often co-teachers have multiple partners and the special education teacher is often co-teaching multiple content areas. Although the teachers knew the challenges of the master schedule, they went ahead and made the request to co-teach together anyway. Both co-teaching pairs were interested in developing a new partnership and were hopeful they would be scheduled to co-teach one or more sections of

Biology or Modern World History. Each partner entered into his/her respective partnership freely and with high expectations for its success.

Administrative support. After making the decision to co-teach, both co-teaching partners met with the high school administrative staff. Ms. Miller and Mr. McCoy scheduled time to meet with the Science Supervisor to discuss piloting co-taught Biology while Mr. Casey and Mr. Smith met with the History supervisor and building Principal to discuss their interest in forming a co-teaching partnership. Both co-teaching requests were subsequently granted. The science co-teachers were assigned one period of co-taught Biology with a lab while the history co-teachers were assigned three class sections of Modern World History.

Co-planning time. Co-planning time is considered one of the most important factors in successful co-teaching. For these two pairs, with the ideal being consistent co-planning sessions, only one of the pairs had consistent co-planning time while the other pair experienced a variety of arrangements that worked for their partnership.

For the Biology co-teachers, co-planning sessions have changed over the last eight years, from the lack of co-planning sessions in year one, to three co-planning sessions in years two-seven, and two in year eight. For the History co-teachers, co-planning sessions have been consistent in their co-teaching schedule.

When Ms. Miller and Mr. McCoy first started co-teaching, they were part of a co-teaching pilot in Biology and were not scheduled for any co-planning time during the school day. As a result, they creatively scheduled their own co-planning periods before and after school hours. After their first year together, co-planning sessions became part of their regular teaching schedule being assigned two to three co-planning sessions per week.

During the 2014-15 school year, the number and type of co-planning sessions for Ms. Miller and Mr. McCoy have changed. They now have two weekly co-planning sessions with one of the two sessions shared with another general education Biology teacher. In this model of a shared co-planning period, Ms. Miller and Mr. McCoy serve as mentors to the new Biology teacher. The new teacher is learning how to be an effective co-teacher under the guidance of two experienced co-teaching partners.

Despite the change in the number and type of co-planning sessions, Ms. Miller and Mr. McCoy report that it has not impacted their effectiveness as co-teaching partners and they believe their knowledge and skill in co-teaching has continued to grow and develop. The co-teaching partners discussed their current co-planning schedule during the interview on 2/27/15. Ms. Miller reported:

We have a common planning period once a week. The other planning period is used to co-plan with another teacher. We don't sit down as much as we did in the past, because in the past we had all afternoon together. We spend the time looking at the calendar, and figuring out what we need to teach based on the schedule. Then we figure out how we are going to teach it.

According to Mr. McCoy, as evidenced by his comments during the 1/20/15 interview:

This year we have fewer co-planning sessions because of the schedule. The partnership has not changed in terms of how well we teach together. Maybe in past years we were really blessed with three co-taught classes with preps allowing us to put time and energy into the partnership. Even though this year has been a little more of a challenge, I think it works really well.

In looking at the number of co-taught classes and planning sessions over the last eight years, it is evident that Ms. Miller and Mr. McCoy initially benefited from multiple co-taught sections and planning periods to practice, develop, and *perfect* the co-teaching model. After having successfully co-taught for a period of time, the partners feel they no longer require the same number of planning sessions. The partners have developed a strong co-teaching practice that can be shared with new teachers through the creative scheduling of mentor co-planning sessions.

When the history co-teachers began co-teaching 18 months ago, they were scheduled for two-three co-planning sessions per week. This co-planning schedule has remained consistent throughout the second year of their partnership. This schedule was found to be supportive of the development of a new partnership because it provided two-three periods a day to help the partners grow and develop their co-teaching practice. The amount of time the co-teaching partners taught and planned together was a significant factor in the rapid development of this co-teaching partnership.

Even with this scheduled shared planning time, Mr. Casey and Mr. Smith chose to spend additional time planning before and after school, between class periods, on the phone, and by text or email. An example of how the teachers use their planning time was evidenced in the interview with Mr. Casey and Mr. Smith on 2/27/15.

We use the co-planning period to sit down and reflect on the week. We use time before and after school to reflect on each class and will make the changes and adjustments needed and divide up the responsibilities of preparing class materials like photocopying. The other day we worked on developing a test together.

Mr. Casey reported, “I do not think we could be as effective as we are right now if we didn’t have those prep periods (interview 2/27/15).” The number of assigned co-taught classes as well as the number of co-planning sessions provided ample opportunity for the co-teaching partners to be able to grow and develop their co-teaching practice. The number of teaching sections and co-planning sessions have remained consistent since Mr. Casey and Mr. Smith began co-teaching.

Although the co-teaching partners had varying amounts of co-planning time, the time and energy they have put into their partnerships have helped to establish a firm foundation in which they will continue to grow and develop their co-teaching practices. As the partners spend multiple years together, they become more comfortable and confident in their partnerships allowing them to support other teachers or other partnerships new to co-teaching.

Highly qualified status. A key finding of this study is that all four participants involved are highly qualified in their respective content areas. It is unusual for both the content teacher and the special education teacher to be highly qualified in a content area. During the 1/20/15 observation, Mr. McCoy stated, “ Not only does Ms. Miller know special education, she has the ability to connect with students and she knows her science.” This has allowed both teachers in each partnership to be on the same page instructionally. During the 3/25/15 interview, Mr. Casey and Mr. Smith discussed the highly qualified status. They communicated that both partners were learning from each other and equally sharing the classroom responsibilities. Mr. Smith stated, “In order to be effective you need a special education teacher who is confident in the content and you need a content teacher who is competent in the special education world.”

The highly qualified status of all four participants has contributed to the growth and development of each of the co-teaching partnerships. Both pairs of co-teachers are confident in sharing the responsibility of instructional presentations with their partners based on their strong

knowledge of the curriculum. Based on their knowledge of the curriculum they were able to share in the development of creative tools designed to meet the needs of the diverse learners in their inclusive classrooms. These tools include the Modern World History Roadmap, and the Miller-McCoy teacher page.

Challenges. The challenges for each co-teaching partnership were discussed during the interview process. Looking across the two partnerships, I found each co-teaching pair identified different challenges. It is interesting to see that all their comments referencing challenges were not directly related to their individual co-teaching partnerships but to concerns related to student performance and the successful delivery of the curriculum. Ms. Miller and Mr. McCoy identified the challenge of teaching the Biology curriculum to a diverse group of learners in the collaborative classroom. Ms. Miller reported during the 2/27/15 interview:

This year we find that our students are not as successful as we would expect them to be ... For the last five years we've been teaching this course, our class averages were a lot higher ... I do not know how to reach them ... We are trying new strategies and different co-teaching models to try to get them to move more in class, moving more to stimulate brain activity. Our big dilemma is how are we going to reach them when they do not do anything on their own.

The Biology co-teachers report that students need a lot of support and guidance with many aspects of the Biology curriculum. "Ms. Miller works with students on writing lab reports.... They are challenged by the expectations in Biology (interview 1/20/15)." The partners stated they do most of their teaching from the note packets using the textbook solely as a resource. They feel the note packets provide the students with the big ideas broken down into more

manageable chunks of information. The visuals provide added support when students struggle with the challenging Biology vocabulary and/or the Biology concepts.

The other challenge identified by the Biology co-teachers is the rotating drop schedule. The rotating drop schedule does not allow for five class meetings per week. Although the class periods are 56 minutes long, the lack of five class meetings per week creates a challenge for teaching the complex content of Biology. The Biology teachers are expected to prepare students for the New Jersey Biology Competency Test scheduled at the end of the school year. On 3/25/15, the Biology co-teachers stated:

The biggest challenge is the loss of a class time because of the rotating drop schedule.

We think that it is detrimental to the special needs students when we don't see them everyday. The other challenges related to the rotating drop schedule is when you give an assessment and the student is absent, it is challenging to reschedule.

Mr. Casey and Mr. Smith, the history co-teaching partners identified a single challenge of having too many ideas and not enough time to implement those ideas into their co-teaching practice. This challenge was discussed with the history co-teaching partners during each of the interviews. As previously cited, the history co-teaching partners record their thoughts and ideas on a daily basis in a reflective journal. The co-teaching partners meet over the summer to review and discuss the ideas in the journal. During the interview on 3/25/15, Mr. Casey and Mr. Smith reported:

The challenge is, we have a lot of ideas.... We are only co-teaching for a year and a half.

We have been writing in our reflective journal so we have all the ideas this summer to discuss. It will be a busy summer.... We want to continue to improve our co-teaching practice.

Mr. Casey and Mr. Smith have planned to meet in the summer after the 2014-15 school year to review their thoughts and ideas in their reflective journal in order to improve their co-teaching practice for the 2015-16 school year. After their first year of co-teaching, the partners met on their own time over the summer months to review the notes in their reflective journal. Several changes were implemented as a result of the discussions that took place between the co-teaching partners. The changes included additions to the modern world history roadmap, and several new classroom activities.

The two partnerships identified different types of challenges. It is interesting to me that both co-teaching partnerships did not identify any challenges related to their partnerships. Both pairs are comfortable and confident in their partnerships and will request continuing as co-teaching partners for the upcoming school year.

The history co-teaching partners identified the challenge of too many ideas with not enough time to implement them while the Biology co-teaching pair identified the students, the curriculum, and the rotating drop schedule as challenges impacting the delivery of the Biology curriculum in the inclusive classroom. Although different, the challenges each co-teaching partnership discussed might represent obstacles or barriers to meeting the needs of the students in the classroom. However, to their credit, these partners are embracing these challenges rather than becoming overwhelmed by them

CHAPTER V

Summary, Discussions and Implications

The purpose of this research study was to observe co-teaching teams that were perceived to be exemplary by multiple sources of data in order to identify variables that enhanced successful collaboration. I chose to investigate the characteristics of two experienced co-teaching teams made up of a special education teacher and a content teacher from Green Valley High School to provide a model that other secondary-level teams could use when implementing the co-teaching model. From November 2014-April 2015, I observed, interviewed, and engaged in conversation sessions with each of the co-teaching teams. According to Pugach & Johnson (2002), when teachers enter into a co-teaching partnership, they require support, time, and resources to develop curricula and teaching strategies that reflect research-based, best practices in teaching and learning. Engaging in the complex act of co-teaching with another teacher can be a challenging endeavor but, for these partners, they have found ways to effectively co-teach with each other to meet the needs of learners in inclusive classrooms.

The qualitative study was guided by the overarching question: What are the key elements needed to foster the development of exemplary high school co-teaching teams? This overarching question was further divided into three more specific questions:

1. What traits do partners in exemplary high school co-teaching teams have in common?
2. What supports do exemplary co-teaching partners identify as needed to be an effective and successful co-teaching partnership?
3. What barriers do exemplary co-teaching partners identify as impacting effective and successful co-teaching partnerships?

Data were collected on two co-teaching pairs over a five-month period from January 2015-April 2015. The collection of data consisted of three observations, three informal conversation sessions, three interviews, lesson-related documents, researcher journal entries, and field notes. Analysis of the data ultimately led to three categories: (1) Teachers' values and beliefs in relation to the co-teaching model, (2) Teachers' instructional practices, and (3) The structural characteristics of the co-teaching partnerships.

All four co-teaching partners shared a set of values and beliefs that strongly impacted how they taught and interacted with students. Each pair started their partnership with a commitment to each other in addition to meeting the needs of learners in the mixed ability classroom. The commitment was evidenced in the way they talked about each other as co-teaching partners. An unanticipated finding of this study was that all four co-teaching partners are high school athletic coaches. As coaches, they are accustomed to working within a team framework. The partners have used their coaching experiences to further develop their co-teaching practices. As a result of their shared values and beliefs, their co-teaching practices have been able to reflect the combined talents of a content specialist focused on the understanding, structuring, and pacing of the curriculum with a special education teacher specializing in enhancing the curriculum and instruction in order to meet the unique needs of all learners in the inclusive classroom.

For the four co-teaching partners, effective communication and collaboration are both the foundation and goal of their co-teaching practices. The key findings identified during this study were the level, frequency, and intensity in which these four co-teaching partners collaborated and communicated with one another. Each co-teaching pair has created a variety of tools that are used throughout each class period to further enhance their co-teaching practice and instruction.

The collaborative development of the unique tools involved a significant amount of each teacher's time, energy, planning, and content expertise.

The structural supports that were key to the establishment and development of each exemplary partnership were the teachers' decision to volunteer to co-teach, the high level of support each team received from the administration, the scheduling of co-planning periods, and the highly qualified status of each of the teachers.

The process in which the teachers established their partnership was similar, volunteering to co-teach with their selected partner and scheduling a meeting to secure administrative approval. According to Wilson & Blednick (2011), with whom and how teachers are paired to co-teach is fundamental to the success of co-teaching. The success of these two co-teaching partnerships is the result of their mutual respect of each other, and their shared values and belief systems.

Although all four of the teachers in this study were highly qualified in their respective content areas, this is unusual, and not a common practice outside of the Green Valley School District. In most school districts, only one of the teachers in a co-teaching partnership is highly qualified in a content area. As a result of the highly qualified status of both of the co-teaching partners, each teacher was adept at the curriculum content, and demonstrated effective teaching and learning techniques, thereby, establishing professional equity and parity. The highly qualified status of both teachers has contributed to the growth and development of these exemplary pairs.

Discussion

In this chapter, I will discuss the findings in light of my research questions, literature review, conversations with co-teaching pairs, personal experiences as a special education

supervisor and key aspects of the theory of Self-Determination by Deci & Ryan (2008) that guided my areas of interest, focus and importance of this study. As stated earlier, this theory is a broad framework for motivation supporting the individual's experience of relatedness, autonomy and competence. After reviewing the data and meeting with the teachers, I clearly saw how my areas of focus were directly aligned to the theory of Self-Determination (Deci & Ryan, 2008). The alignment of the data to the theory of Self-Determination (Deci & Ryan, 2008) was not obvious at the beginning of the study and only became evident to the researcher following the analysis of all data. The exemplary co-teaching partners demonstrated effective communication skills (relatedness), were highly regarded by administrators and colleagues (competence) and were confident in their abilities and skills to meet the needs of learners in collaborative classrooms (autonomous).

Additionally, this chapter will discuss implications for administrators and teachers who are interested in implementing effective co-teaching practices as well as the limitations of this study. There are no roadmaps or recipes for the development and implementation of an exemplary co-teaching model in secondary schools, but there are lessons that can be learned from this study that will help establish and "grow" teachers interested in building an exemplary co-teaching partnership. The chapter will conclude with my recommendations for future research and a conclusion.

Volunteering and compatibility. In order to establish successful co-teaching pairs, the research suggests that teachers arrive at the decision to volunteer and secure administrative approval before entering into a co-teaching partnership. When teachers enter into a co-teaching partnership voluntarily, research shows that they have passed one of the biggest hurdles of co-teaching, compatibility. In the Kohler-Evans 2006 article titled, *Co-Teaching: How to Make This*

Marriage Work in Front of the Kids, the authors identify volunteering as one of the most important elements of establishing an effective co-teaching practice. According to Kohler-Evans (2006), one of the benefits of this type of co-teaching relationship is the opportunity for professional growth that comes from giving and getting feedback from a well-respected peer (p. 262). In addition, Walther-Thomas, Bryant, and Land (1996) studied teacher choice in co-teaching partnerships. The researchers emphasized the need for teachers to volunteer for co-teaching assignments. This is further supported by the study conducted by Keefe & Moore (2004) in which the researchers found that allowing teacher choice increases the chance of creating a compatible and successful relationship. They described a process to identify potential co-teaching partners whereby the teachers suggested prospective co-teachers interview each other to find out if they are compatible and talk about specific issues such as roles, grading, modification, and classroom discipline.

My research also confirms the importance of open discussions between teachers to determine their compatibility in becoming co-teaching partners. In my study, both sets of co-teaching pairs arrived at the decision to become co-teachers after meeting with one another to discuss their knowledge and experiences of co-teaching, their interest in forming a co-teaching partnership, and their belief that all students can succeed in collaborative classrooms. These well-matched pairs selected each other based on compatibility. For these pairs, being compatible meant having similar beliefs and values. During the (1/20/15) interview, Mr. McCoy stated, “If you looked at Ms. Miller and I, you would see a lot of similarities in terms of personalities, interests, and knowledge of teaching. We get along because we are so similar. We like working together.” According to Mr. Casey, one of the history co-teachers, “We definitely have the right fit. We have similar interests and it works because we have constant communication to make

sure we are on the same page.” These two pairs spend time in and out of the classroom together because they truly like each other and like co-teaching together. The co-teaching pairs volunteered to enter into a co-teaching arrangement after learning they shared similar beliefs, values, and interests. They entered into a co-teaching partnership because they felt their co-teaching partnership would be successful based on their compatibility.

Another key finding about compatibility and volunteering from my research is that it leaves open the possibility of the teachers’ willingness to do additional work because they genuinely like each other and enjoy spending time together. The time and energy each co-teaching pair puts into their co-teaching planning and practice is key to the success of any co-teaching partnership.

According to the Walther-Thomas (1997) study, administrative support is a critical factor in successful implementation efforts. In my study, not only did teachers receive administrative approval, they also received administrative support before committing to their co-teaching partnership. Similar support was initially provided to each co-teaching pair in the form of several meetings with the content supervisor. Administrative support helps ensure that new initiatives receive the support, school validation, and resources needed to sustain these efforts (Creasey & Walther-Thomas, 1996; Fullan, 1991; Sarason, 1993).

The process to secure both administrative approval and support was highlighted during an interview with the Biology co-teachers, “When we met with the science supervisor to discuss the possibility of piloting a co-taught Biology class, he was so supportive and excited to bring the co-teaching model into the Science department. We discussed ways in which he can support us (interview 3/25/15).” Administrators who understand the complexities of co-teaching can directly support co-teaching partnerships and practices (Wilson & Blednick, 2011).

My study supports the research (Creasey & Walther-Thomas, 1996; Fullan, 1991; Sarason, 1993) in that both sets of co-teachers met with their content supervisors and they received administrative support. In addition, my study points to the timing and type of support that is needed. I have learned that administrative support needs to occur prior to the teachers stepping into a classroom and must be present consistently during the first few years of the co-teaching partnership. Teachers new to co-teaching or first time co-teaching partners need to have an open discussion with administrators about entering into a partnership. It is important that the co-teaching pair schedule time to discuss any and all questions they may have about the implementation of the co-teaching model. The teachers in my study met with the administration and discussed scheduling (the number of classes assigned to teach together), co-planning periods (the number and schedule), curriculum and assessment (type of curriculum/assessments in the mixed ability classroom), classroom materials (new or different materials based on the unique needs of the students), communication systems (parents, students), and teacher evaluation procedures (evaluated separately or together).

My research indicates that the level of administrative support and guidance can look different from partnership to partnership, and should be based on the needs of the co-teaching pairs. Once the school year begins, co-teachers benefit from on-going support and guidance from the administration. This support and guidance, however, can vary from informal meetings with both teachers actively involved in the discussion about co-teaching or something more formalized such as classroom observations and feedback sessions.

In the current study, the amount of administrative support and guidance provided to each of the partnerships varied. The Biology pair needed more administrative support and guidance to implement a new co-taught class as compared to the history co-teaching partners. Since the co-

taught Biology class was new to both the administrator and the teachers, the Science supervisor scheduled monthly classroom observations followed by feedback sessions. The guidance the Biology co-teachers received from the administration was extremely valuable in helping to support this new partnership.

On the opposite end of the spectrum were the experiences and needs of the history co-teaching partners. They required less support and guidance from the administration since they had previously co-taught with other partners and had the experience of establishing and implementing the co-teaching model. The only support and guidance that was needed for the experienced co-teaching partners in this pair was a meeting with the history supervisor to discuss the number of co-taught classes and co-planning periods.

An important finding of my study is that administrator support and guidance is essential as co-teaching pairs are establishing their partnership but may vary and look different based on the needs of the co-teaching partners.

Creating time for co-planning. Experts assert that successful co-teaching requires co-planning time (Dieker, 2001; Friend & Cook, 2007; Scruggs et al., 2007). This finding is further supported by additional research (Walther-Thomas, 1997; Pugach & Wesson, 1995, and Austin, 2001). In the Pugach & Wesson (1995) study, teachers scheduled time to meet prior to the start of the school year, and were scheduled for a daily co-planning session. In addition, the teachers used one of their daily co-planning sessions as a formal meeting session with their supervisor to check on how things were going, what teachers could do to improve their teaching, needed materials, and the best way to teach certain concepts. The consistent co-planning time and administrative support was a necessary and an important component to grow and develop the co-teaching partnership of the teachers in the Pugach & Wesson (1995) study.

My research also confirms the need for co-planning time, and it also highlights the limitations of official co-planning and the need for teacher initiative. Although the four co-teaching partners in this study had scheduled co-planning time (two to three weekly scheduled co-planning sessions), they felt that it was not enough time to accomplish what was needed to be successful. As a result, they created additional opportunities to get together to plan lessons, discuss instruction and strategies, and decide on a co-teaching approach. Additional time was scheduled between classes, during lunch, after school hours, and on their personal time utilizing various technology resources (text messages, emails, phone calls, and lesson plans shared on a designated school data base). “We would not be as effective as we are if we did not meet over the summer and did not have those prep periods,” stated Mr. Casey during the 2/27/15 interview.

In talking to both co-teaching pairs, they felt that it is not enough for teachers to have official co-planning time, they also need to commit to going above and beyond the scheduled co-planning times to grow their co-teaching practice. I found it was important for each co-teaching pair to have a consistently scheduled co-planning period as well as additional time to work on lessons and assignments beyond the school day. The teachers reported that they could not accomplish everything they needed to do during co-planning periods.

Time together. Another factor that contributes to the “growing” of co-teaching partnerships is the length of time the partners are co-teaching together. As noted in the book, *Teaching in Tandem*, the author states, “There is no magical length of time in which co-teachers should stay together. Teachers should stay together as long as the partnership is working and the pair is able to provide high-quality instruction to students in inclusion classrooms.” On the other hand, if the partnership is not working, a year co-teaching together can feel like an eternity. My research supports the findings of Wilson & Blednick (2011), the authors of *Teaching in Tandem*,

who conclude that partners should stay together if their partnership is working. In order to determine if co-teaching partnerships are successful or unsuccessful, the supervisors in Green Valley School District developed a yearly procedure prior to scheduling co-taught classes for the following school year. The supervisors meet with each teacher individually near the end of the school year to determine the status of each partnership. During the meeting, the teachers are asked a series of questions regarding their current partnership. If the teachers are effective in meeting the needs of students in inclusive classrooms and are comfortable in their co-teaching partnership, the partnership remains unchanged. If one or both teachers are not confident in their partnership and request a different co-teacher or teaching assignment, the partnership is dissolved. This is an effective and important practice in Green Valley High School. The administration supports co-teaching and only wants teachers to stay together if the partnership is effective.

Creative collaboration. A key finding of my study is that when teachers are committed to implementing the co-teaching approach, have consistent co-planning time, communicate effectively, and utilize opportunities outside of the school day, they can move beyond the daily planning of lessons to developing unique tools and materials designed to meet the needs of the diverse group of learners in the inclusive classroom. The development of tools and teaching strategies was not found in any of the research cited in this paper. In my study, I found that the four teachers gave expression to their commitment to making a difference for learners by collaborating in the development of tools unique to their respective content areas.

The Modern World History Roadmap and Biology co-teacher web page illustrate what co-teachers can accomplish when they are committed to their partnership and are striving to meet the needs of a diverse group of learners in the mixed ability classroom. The close collaboration

needed to create these tools was easily achievable for these teachers due to their extensive knowledge of the curriculum. I know that the pairing of two highly qualified individuals in a co-teaching partnership may not be possible in all districts, however, it is always possible for co-teaching partners to work together to create tools to meet the needs of learners in their inclusive classrooms.

In order to increase the number of tools in teachers' tool belts, they need an idea or concept as well as the time to develop those ideas or concepts. They will require time to collaboratively discuss, brainstorm, create, and reflect on the idea/concept with their co-teaching partner. The partners in this study scheduled time over the summer months to "grow" their Modern World History Roadmap.

Constant communication. The final finding of my study was the use of effective interpersonal communication skills. The co-teaching partners in this study started developing their interpersonal communication skills when they first discussed volunteering to co-teach. From that moment on, they began building their relationship through open and honest communication. They shared information with one another, solved problems, managed conflict, and made decisions through a collaborative process. An example of the partners' communication skills was shared with the researcher during the 3/25/15 interview with Ms. Miller and Mr. McCoy. Mr. McCoy stated:

When Ms. Miller and I were observed by the science supervisor recently, he said he couldn't tell who the special education teacher was and who the general education teacher was during the lesson. It was one of the biggest compliments we received. It's really a compliment to the special education teacher knowing the content so well and general education teacher knowing each student's accommodations and learning goals.

The science supervisor was referencing the comfort and confidence level of the partners as they shared the instructional responsibility in the Biology classroom. According to Gately & Gately (2001), co-teaching requires a commitment not only to working within an equal partnership, but also in the development of new competence in communicating frequently and effectively with fellow teachers. The transition from being a single teacher solely responsible for teaching a group of students to sharing a classroom and instruction can be a challenging endeavor for teachers. Teachers need to establish an effective communication system with their co-teaching partner. Gately & Gately (2001) describe three developmental levels of communication: the beginning stage, the compromising stage, and the collaborating stage. At each development stage teachers demonstrate varying degrees of interaction and communication.

I am familiar with the research of Gately & Gately (2001) and have shared it with co-teachers in my pilot study as well as with special education teachers in Green Valley Public Schools. The Co-Teaching Rating Scale referenced in the Gately & Gately (2001) article was used in this study as a tool to identify the two pairs of exemplary co-teaching partners. There are two corresponding forms of the Co-Teaching Rating Scale, one for special education teachers and one for general educators. The Rating Scale is a valuable tool that can be used as a springboard for co-teaching partners to discuss communication, curriculum knowledge, planning presentation, classroom management, physical arrangement of the classroom, and student goals.

Communication skills are essential when establishing and developing effective co-teaching partnerships. When teachers utilize effective interpersonal skills in classrooms, they serve as positive role models of effective communication skills for students demonstrating effective ways to listen, communicate, solve problems, and negotiate with one another during each of the classroom observations.

Research Limitations

The overall design of this qualitative study included certain limitations. One limitation may have been my prior relationship with all four teachers. In 2011-13, I served as a Special Education Supervisor working closely with the special education teachers in the Green Valley School District. As a supervisor, I was required to observe and evaluate special education teachers at both the elementary and secondary levels. As a supervisor, I had the opportunity to observe all four teachers providing instruction in mixed ability classrooms. My knowledge and relationship with each teacher may have impacted the data because of my biases and beliefs. In addition, each of the four teacher's knowledge of and relationship with me could have affected how they responded and conducted themselves in observations and interviews.

Another limitation of the study may have been the timeline of the research beginning in November 2014 and ending in April 2015. As a result of the November start date, I was unable to gather data in the beginning of the school year when the co-teaching partners were planning and organizing for the new school year. The observation and interview data for the research was gathered in January 2015, March 2015, and April 2015. It would have been valuable to see how the co-teaching partners organized their teams in the beginning of the school year in addition to the middle and end of the school year.

Also, the context of this study was in a suburban public high school in central New Jersey which may limit how applicable the research design and findings would be in other school districts in New Jersey, as well as in other states. The researcher used a small sample of two high school co-teaching teams for this research study. It would have been informative to include exemplary co-teaching pairs from other schools within the Green Valley School District.

Because this study was limited to co-teaching partners from one school, in one district, in New Jersey, the results may not be able to be easily generalized to include a broader range of districts.

Research Implications

The findings of this study indicate multiple possibilities for other research studies in regard to co-teaching. More studies investigating the impact of athletic coaching and the highly qualified status of both teachers in a co-teaching partnership would strengthen the validity and reliability of this study.

Throughout this study, I found that the success of each partnership was directly related to the partners' ability to work successfully with one another and their students through the use of effective interpersonal communication systems. Both co-teaching teams discussed their communication systems referencing athletic coaching and their ability to efficiently and effectively lead a sports team. They indicated how coaching a sport closely paralleled how they approached their co-teaching practice. I was unable to find any research on athletic coaching in relation to co-teaching partnerships. Therefore, further studies are needed to look at the relationship and impact of athletic coaching and the effectiveness of co-teaching partnerships.

Another area of research that needs to be studied is the impact of two highly qualified teachers in a co-teaching partnership. In the current study, all four teachers were certified in their respective content area in addition to both special education teachers holding special education certifications. Currently, there is little significant research that studies highly qualified co-teaching partners or compares co-teaching partnerships between highly qualified partners to the more typical model of one content specialist and one special education teacher.

Implications for Practice

Since the completion of this research study, I have reflected on what I could use in my current practice as the Director of Special Services to help support teachers interested in learning about co-teaching or the establishment of new co-teaching partners. This study has helped me to identify the essential elements needed when entering into a co-teaching partnership.

In the current study, the teachers informally interviewed each other prior to committing to a co-teaching partnership. I would like to implement a more formal type of interview process using an interview protocol. There are several published interview protocols and surveys that can be used by teachers prior to entering into a co-teaching partnership. These include two versions of *Co-Teaching and Collaborative Preparation Survey* (Murawski, 2001), one for the general education faculty and one for the special education faculty, *Sharing Hopes, Attitudes, Responsibilities, and Expectations Survey (S.H.A.R.E)* by Murawski (2003), and the Gately & Gately (2001) Co-teaching Rating Scale used in this study.

Another element found to be necessary for effective co-teaching partnerships is professional development workshops for co-teaching partners prior to the start of the school year. Throughout the interview process, the co-teaching partners discussed the importance of professional development for teachers new to co-teaching and/or new co-teaching pairs. One of the co-teaching pairs had organized a series of professional development workshops during the summer months. The workshops were scheduled over a two-year period in the summer weeks prior to the start of each school year. The introductory co-teaching workshop helped the partners focus on the foundational components of the partnerships in addition to setting protocols and procedures. The year two co-teaching workshop helped the partners to reflect on the strengths of

their relationships, assisted them in addressing areas that had been identified as challenges, and set goals for the upcoming school year.

In addition, issues that need to be addressed by the administration are scheduling and co-planning periods. From this study, I have found that it is important for administrators to look carefully at the teaching schedule and provide new partners with multiple opportunities to co-teach together throughout the school day. In the current study, the history co-teaching partners began their partnership 18 months ago teaching three sections of Modern World History together. They were able to quickly “grow” their co-teaching practice as a result of the significant amount of time they spent co-teaching together. Additionally, careful consideration must be given to the number of daily co-planning periods and the scheduling of preparatory or duty periods. The co-teaching partners in this study confirmed the importance of consistent co-planning periods. The teachers are meeting during their preparatory periods (carefully planned during the same period on the same day by the administration several times per week).

I have learned through my experience as a school administrator and through this study that effective communication in a co-teaching partnership does not just happen. It takes time and practice to be successful. The co-teaching pairs in this study had to work on developing their communication skills. The more they communicated, the more successful their teaching practice became. During the classroom observations, both sets of co-teaching pairs openly communicated with one another. The exemplary co-teaching partners in this study demonstrate skills that are in the collaborative stage of development (Gately & Gately, 2001) by openly communicating and interacting. According to the researchers, it is often difficult for outsiders to discern which teacher is the special educator and which is the general educator.

Additional recommendations to develop effective interpersonal communication skills include classroom observations or the observation of a co-planning period. Teachers may request time to observe a co-planning session or classroom lesson to get a deeper understanding of how co-teaching partners effectively communicate and collaborate with one another. Teachers new to co-teaching can meet with their supervisor to discuss any challenges or concerns they may be experiencing in their partnership. In Green Valley High School, new teachers will often request time to observe a teacher in another classroom if they are having difficulty in classroom management, differentiation, or communicating with a co-teaching partner. The supervisor is able to schedule the observation and will accompany the teacher to the classroom followed by a debriefing session. This has been an effective way for teachers to observe and discuss effective teaching models with the supervisor.

This study has helped to identify the essential elements in effective co-teaching practices. I will be using what I have learned to further support new teachers or teachers interested in establishing a co-teaching partnership through the teacher interview process, professional development opportunities, the careful scheduling of co-teaching pairs and co-planning periods, and the development of interpersonal communication skills.

Implications for District/School Policy

Co-teaching is implemented by two professionals with equivalent licensure but different areas of expertise (Friend, 2014). In this study, the two professionals, the general education and special education teacher, in each partnership were highly qualified in the content area and the special education teacher was also certified in special education. As a result of their content expertise, both teachers are adept at curriculum content, effective teaching and learning techniques, and have established professional equity and parity (Wilson & Blednick, 2011).

The highly qualified status of both teachers in a content area is not a consistent practice in school districts across New Jersey. In the current study, the *majority* of co-teachers in Green Valley High School are highly qualified in a specific content area. This statistic is a result of the District's vision and creative approach to developing highly qualified teachers. Several years ago, the district supervisors committed to conducting classes for teachers interested in becoming highly qualified in a specific content area. Four supervisors (English, Math, Social Studies and Science) worked with groups of teachers, beyond contractual hours, over a period of time to teach specific content at the secondary level. After completing instruction, the teachers took the Praxis test in a specific content area. All teachers passed the Praxis and were deemed highly qualified in a specific content area. Those teachers are currently teaching in co-taught classrooms.

Other options for districts lacking the resources for instructors already employed in the district to conduct courses is to invite local colleges to send one of their professors to conduct the class on site in the district. Often, teachers are more motivated to pursue educational coursework after school hours when the travel time is minimized.

Another area of policy that should be reviewed is the New Jersey Administrative Code (N.J.A.C. 6A:14) that guides special education practices. In 6A: 14-4.6(m), the code provides a table for group sizes for supplementary instruction and resource programs. Under the left column of the table, the code lists; (1) *Support resource and supplementary instruction*, followed by (2) *In-class*. The reference to "In-class" is the co-teaching model. Identifying co-teaching as "In-class" does not adequately or appropriately describe co-teaching. This reference is reflective of the information in Chapter 4 of the New Jersey Code. It is suggested that the code include the co-taught model in the description of group sizes. The "In-class" reference gives the impression that

teachers are just in-class not co-teaching, co-planning, and/or co-assessing. Changing the wording to co-teaching would go further to provide special education teachers with a more equal role in the co-taught classroom.

Since districts do not have the authority to change the N.J.A.C. 6A:14, they can change district co-teaching practices by replacing the reference of “in-class” with the phrase, “co-teaching.” Case managers, teachers, and administrators can begin to identify teachers as co-teaching partners consistently during IEP meetings, on school websites, on school schedules, and during back to school events. Changing the reference to co-teaching can serve as a catalyst to change the culture of the school and district to be more aware and knowledgeable about co-teaching practices.

Conclusion

Co-teaching provides teachers with an opportunity to better meet the academic and behavioral needs of a mixed ability classroom. For professional collaboration to reach its full potential, a commitment between the general education and special education teacher is needed. I have learned through this study that effective co-teaching *is as much an art as it is a science* (Ploessl, Rock, Schoenfeld & Blanks, 2010). If co-teaching partners are willing to invest time and effort in establishing and committing to a co-teaching partnership through enhancing their interpersonal communication skills, securing weekly planning sessions, and sharing instruction, they can grow and develop their practice into an exemplary co-teaching partnership.

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Appendix A**The Co-teaching Rating Scale (General Education Teacher Format)**

Respond to each question below by circling the number that best describes your viewpoint:

1. Rarely	(2) Sometimes	(3) Usually
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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 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 can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. My co-teaching partner often presents lessons in the co-taught class.	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 is familiar with the methods and materials with respect to this content area.	1	2	3
12. Modifications of goals for students with special needs are fully incorporated into this class.	1	2	3

13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The “chalk” passes freely between the two teachers.	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 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

The Co-teaching Rating Scale (Special Education Teacher Format)

Respond to each question below by circling the number that best describes your viewpoint:

1. Rarely	(2) Sometimes	(3) Usually
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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 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 can be spontaneous, with changes occurring during the instructional lesson.	1	2	3
6. I often present lessons in the co-taught class.	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 this content area.	1	2	3
12. Modifications of goals for students with special needs are fully incorporated into this class.	1	2	3

13. Planning for classes is the shared responsibility of both teachers.	1	2	3
14. The “chalk” passes freely between the two teachers.	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 of the 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

Appendix B

Interview Questions

Interviews scheduled in January 2015

1. What factors encouraged you to be in the current co-teaching partnership?
2. Tell me about your teaching beliefs, and philosophy as a co-teaching partner?
3. Describe your current co-taught class.
4. Tell me about your partnership, how does it work?
5. Describe an instructional planning session.
6. Describe any professional development you have received in co-teaching prior to the 2014-15 school year.
7. Describe the co-teaching approaches you currently implement in the co-taught classroom.
8. How do you meet the needs of the diverse population of learners in the co-taught classroom?
9. Describe a well-planned co-taught lesson.
10. How do you handle classroom management?
11. How do you handle communication with parents?
12. What challenges or struggles have you experienced?

Interview Questions

Interviews scheduled in March 2015

1. Describe your “co-teaching” experience.
2. What do you feel are the most important qualities of an exemplary co-teaching partnership?
3. What is the difference between the roles of the content teacher and the special education teacher in co-taught classrooms?
4. How do you divide the responsibilities in the co-taught classroom?
5. What are the challenges of your co-teaching partnership?
6. Describe a typical period in the co-taught classroom.
7. What is the best aspect of the co-teaching model?
8. What is the most challenging aspect of the co-teaching model?
9. Describe the professional development you have received related to the co-teaching model in the 2014-15 school year.
10. What co-teaching approaches have you implemented in your class?
11. How do you decide on which co-teaching approach to use in your class?
12. What do you feel are the most important qualities of an exemplary co-teaching partnership?

Interview Questions

Interviews scheduled in April 2015

1. Compare your “co-teaching” experience from the beginning of the school year. How has it changed?
2. What do you feel are the most important qualities of your co-teaching partnership?
3. What is the difference between the roles of the content teacher and the special education teacher in your current co-taught classroom?
4. How do you feel about the division of responsibilities in your co-taught classroom?
5. What are the current challenges of your co-teaching partnership?
6. What is the best aspect of your current co-teaching experience?
7. Describe how you plan, manage instruction, and develop assessments.
8. Describe how you and your co-teacher work through conflicts or unanticipated issues.
9. How do you decide that a particular concept requires additional instructional time?
10. What skills do you bring to the co-teaching partnership?

Appendix C**Observational Protocol**

General Information	Student Engagement	
Date:	<input type="checkbox"/> Use of graphic organizers	<input type="checkbox"/> Use of visuals
Teacher Name (Special Education):	<input type="checkbox"/> Students moved throughout classroom	<input type="checkbox"/> Use of technology
Teacher Name (General Education):	<input type="checkbox"/> Independent work	<input type="checkbox"/> Partner work
Grade/Subject:	<input type="checkbox"/> Active response	<input type="checkbox"/> Group work
Number of Students:	<input type="checkbox"/> State changes/transitions	<input type="checkbox"/> Games
Observer:	<input type="checkbox"/> Whole class instruction	<input type="checkbox"/> Use of manipulatives
Co-teacher Communication	Co-teaching Approach	
<input type="checkbox"/> Non-verbal communication	<input type="checkbox"/> 1 teach/1 observe	<input type="checkbox"/> Alternative Teaching
<input type="checkbox"/> Verbal communication	<input type="checkbox"/> 1 teach/1 assist	<input type="checkbox"/> Parallel Teaching
<input type="checkbox"/> Communication between students and teachers	<input type="checkbox"/> Station Teaching	<input type="checkbox"/> Team Teaching
<input type="checkbox"/> Positive teacher to teacher rapport/respect	<input type="checkbox"/> Teachers are comfortable with the selected approach.	
Lesson Development/Instructional Presentation	<input type="checkbox"/> Co-taught classroom have a feeling of collaboration and community.	
<input type="checkbox"/> Beginning (activate background knowledge, pre-assessment, hook, review, lesson objective stated).	Classroom Management	

<input type="checkbox"/> Middle (guided practice, independent practice).	<input type="checkbox"/> Rules/routines have been established.	
<input type="checkbox"/> End (closure, reteach, assessment, preview, review).	<input type="checkbox"/> Both teachers share behavior management.	
<input type="checkbox"/> Teachers appear competent with curriculum and common core standards.	<input type="checkbox"/> Students respond to management techniques.	
<input type="checkbox"/> Lesson is presented in a variety of ways.	<input type="checkbox"/> Both teachers move around freely.	
<input type="checkbox"/> Instructional responsibilities are shared.	<input type="checkbox"/> Students are seated heterogeneously	
Classroom Climate	<input type="checkbox"/> Positive Behavioral support	
<input type="checkbox"/> Teacher to student Follow-up	Differentiation	
<input type="checkbox"/> Student to student Follow-up	<input type="checkbox"/> Language Considerations	<input type="checkbox"/> Modifications
<input type="checkbox"/> Error correction	<input type="checkbox"/> Accommodations	<input type="checkbox"/> Pre-assessment
<input type="checkbox"/> Praise statements	<input type="checkbox"/> Check for understanding	<input type="checkbox"/> Wait time
<input type="checkbox"/> Students are engaged	<input type="checkbox"/> Supported background knowledge	
<input type="checkbox"/> Students are on-task	<input type="checkbox"/> Chunked Content	
<input type="checkbox"/> Humor	<input type="checkbox"/> Consideration for student readiness or interest	
<input type="checkbox"/> Students are comfortable with both teachers	<input type="checkbox"/> Instructional strategies	
Comments:		

Appendix D
Consent Form
Linda Edwards
Rutgers University Doctoral Candidate
27 Colonial Road
Midland Park, NJ 07432

CONSENT TO TAKE PART IN A RESEARCH STUDY

You are invited to participate in a research study of exemplary co-teaching partnerships in a suburban school district. The research study is being conducted by Linda Edwards, who is a doctoral student in the Graduate School of Education Department at Rutgers University. The purpose of this research study is to examine the components of successful co-teaching by exploring the experiences and characteristics of two exemplary co-teaching pairs.

Participants will include four high school teachers who voluntarily choose to participate in the study, and each individual's participation will last approximately 4 months. The teachers were selected as possible participants based on their experiences in working in a co-teaching partnership where special education students receive instruction in a general education classroom.

If you voluntarily decide to participate, you will be asked to participate in individual interviews and to allow the researcher to observe you during instructional periods. Individual interviews will be recorded using a digital voice recorder. During individual interviews, you may choose not to answer any questions with which you are not comfortable. Classroom observations will be documented using field notes.

Any information obtained in this research study in which you can be identified will remain confidential. Your participation is voluntary. In the event you decide not to participate, that decision will not affect your future relations with your high school. The data will be treated confidentially and none of the data will be personally identifiable. Your privacy will be protected and confidentiality of information guaranteed. Any data collected from you in this study will be aggregated and only available to the research team and the Institutional Review Board at Rutgers. Please note that I will keep this information in a secure location for a period of three years. Your name will not appear in any report, publication, or presentation resulting from this study. By signing a copy of this form you are granting your permission to participate in this study. Your signature indicates that you have read the information provided above and voluntarily agree to participate in this study.

To minimize the risk you will be assured of privacy, confidentiality and your participation will not be reflected in any way on observation/evaluation processes or procedures. It will be my role as the researcher to establish and maintain good rapport, and model good listening skills with all participants.

The results of the study will provide valuable information on identifying the characteristics of exemplary co-teaching partnerships for the development of more effective and successful co-teaching teams. The findings of this study will be used to design a comprehensive co-teaching professional development plan for teachers to establish a common understanding of co-teaching and the components necessary to implement an effective co-teaching partnership.

If you have any questions about the study or study procedures, you may contact Linda Edwards.
Office number: 908-889-0100 ext. 3138
Email: Ledwards@spfk12.org

If you have any questions about your rights as a research subject, you may contact the IRB Administrator at Rutgers University at:
Rutgers University, the State University of New Jersey
Institutional Review Board for the Protection of Human Subjects
Office of Research and Sponsored Programs
3 Rutgers Plaza
New Brunswick, NJ 08901-8559
Tel: 848-932-0150
Email: humansubjects@orsp.rutgers.edu

You will be given a copy of this consent form for your records.

Sign below if you agree to participate in this research study:

Subject (Print) _____

Subject Signature _____

Date _____

Principal Investigator Signature _____

Date _____