

**EXPLORATION OF CO-TEACHERS' BEST PRACTICES WITHIN A  
VOCATIONAL TECHNICAL SCHOOL DISTRICT**

by

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## **Dedication**

*I dedicate this dissertation to my grandparents, Irving and Marilyn Reingold,  
who connected me to my past, inspire me in the present, and  
will leave a lasting legacy to shape my future.*

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I would like to thank my dissertation chair, Dr. Michelle Kowalsky, for her extraordinary dedication and commitment to the success of this dissertation. Her positive energy and encouragement motivated me to achieve what I once thought to be impossible. Sincere thanks must also be given to committee members Dr. Carmen Jordan-Cox and Dr. Martha Viator for their invaluable guidance and expertise.

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## **Abstract**

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### **EXPLORATION OF CO-TEACHERS' BEST PRACTICES WITHIN A VOCATIONAL TECHNICAL SCHOOL DISTRICT**

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Doctor of Education

*Co-teaching* is defined as a situation in which two educators, one a general education teacher and one a special education teacher, work together to lead a classroom that contains both mainstream and special education learners. The purpose of this qualitative, descriptive study using a convenience sample of 15 (10 general education, 5 special education) co-teachers in a New Jersey vocational and technical school was to explore participants' working relationships, factors that contribute to successful working relationships, and best practices that can be derived from an examination of successful co-teaching relationships. In-depth interviews and a brief, post-interview survey were employed to gather data, which were analyzed using open and a priori coding. Results showed that participants perceived the personalities, attributes, and mutual compatibility of co-teachers as most essential in contributing to successful co-teaching. Participants considered it especially important that their partner possess a positive attitude toward students, show flexibility or adaptability, have good communication skills, and be a good team player. Factors defining a successful co-teaching working relationship were the previously mentioned personal attributes and having common planning time. Organizational best practices contributing to successful working relationships included the availability and use of common planning time, taking into account personal

preferences or personalities when planning co-teaching partnerships, and planning for continuity of co-teaching relationships over several school years. Classroom-level best practices included allocation of roles, use of diverse co-teaching models, and alternating roles between co-teaching partners. Implementation of co-teaching best practices and further research in other settings are recommended.

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## Chapter 1

### Introduction to the Study

The term *co-teaching* is defined as a situation in which two educators, one a general education teacher and one a special education teacher, work together to lead a classroom that contains both mainstream and special education learners (Bauwens, Hourcade, & Friend, 1989; Cook & Friend, 1995). The two teachers are sometimes called *co-teaching pairs*. Co-teaching had its origins in progressive schools in the 1960s and started to become more popular in schools during the 1970s, owing to legislation intended to increase diversity in the classroom (Villa, Thousand, & Nevin, 2008). Although research on co-teaching was conducted during the 1990s (Cook & Friend, 1995), it was not until the next decade that co-teaching started to become more widely used as a strategy for including special education students within general education classes, a practice known as *mainstreaming* (Nichols, Dowdy, & Nichols, 2010). The growth in research was spurred by passage of both the Individuals with Disabilities Education Acts (IDEA) of 1997 and 2004 and the No Child Left Behind Act (NCLB) of 2001. These were enacted, in part, to provide for the *least restrictive environment* for special needs students, which means that a student with a disability should, to the greatest extent possible, be educated among nondisabled peers (U.S. Department of Education, Office of Special Education Programs [OSEP], 2012).

This research study was conducted in order to explore the experiences of co-teachers in an inclusion setting. The study was conducted on two campuses and four schools in a county New Jersey vocational and technical school district. The purpose of

this study was to explore details of co-teachers' working relationships, the factors that contribute to successful working relationships, and best practices that can be derived from an examination of successful co-teaching relationships.

### **Background**

Co-teaching has existed in some form since at least the late 1950s (Friend, Reising, & Cook, 1993). Since the 1990s, it has been gaining popularity, particularly as it applies to inclusion classrooms, wherein a general education teacher and a special education teacher work together to teach a combined group that includes students with and without disabilities (Solis, Vaughn, Swanson, & McCulley, 2012). Today, there are several widely accepted models of co-teaching (Cook & Friend, 1995; Friend et al., 1993; Friend & Cook, 2012; Friend, Cook, Hurley-Chamberlain, & Shamberger, 2010). Past research has identified a number of best practices and challenges, leading to an understanding of co-teaching in general (Dieker & Murawski, 2003; Friend, 2008, Mastropieri, Scruggs, Graetz, Norland, Gardizi, & McDuffie, 2005; Scruggs, Mastropieri, & McDuffie, 2007; Walther-Thomas, 1997).

Important factors influencing the success of co-teaching relationships are strong teacher relationships, co-planning and administrative support, and clear role assignment (Dieker & Murawski, 2003; Scruggs et al., 2007; Wilson, 2008). The literature indicates that teachers perceive these factors as crucial to the success of co-taught classrooms. When these factors are present and co-teaching is successful, teachers experience benefits including increased self-efficacy, professional development, and personal support (Walther-Thomas, 1997).

Despite the growing body of research related to co-teaching, a number of challenges act as obstacles to widespread implementation of co-teaching. These include time constraints and a lack of interest in co-teaching among teachers (Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007). Furthermore, evidence shows that teachers do not always conform in practice to their own theoretical beliefs about successful co-teaching (Austin, 2001; Gürgür & Uzuner, 2010). These challenges underscore the need for continued research on how co-teaching relationships in inclusion classrooms can succeed. By examining co-teachers' perceptions of the reasons for their success, this study contributes to the existing body of knowledge and provides the teaching community with added tools to help improve co-teaching practices.

### **Statement of the Problem**

Research on what co-teachers identify as success factors in collaboration is scant because earlier research had not focused on asking the teachers themselves (Austin, 2001). Hang and Rabren (2009), whose research sought to identify teachers' and students' perspectives on co-teaching and its efficacy, recommended that future research should examine differences in co-teaching practices. In addition, some researchers have likened co-teacher relationships to a marriage where the partners must communicate in order to be successful (Friend, 2008; Sileo, 2011).

Further, research on co-teaching specific to full-time high school vocational schools is also scant (Casale-Giannola, 2012). Best practices are usually adaptive to the context in which they are used (Harrington, 1997). Therefore, a best practice that might work in a typical high school may not be similarly effective in a vocational and technical

school environment, and vice versa. It is important to identify co-teaching best practices derived from a vocational and technical environment in order to ensure that findings are applicable to that setting.

### **Purpose of the Study**

The purpose of this qualitative, descriptive study was to elicit and explore stories of success and best practices from practitioners working as co-teachers in the setting of a county vocational and technical school district. The research used one-on-one interviews combined with a short structured post-interview survey of co-teachers within the district. The study focused on the district's schools that house special education students and explored the varied perspectives of the co-teachers working in these schools in order to substantiate their best practices. The schools from which the research participants were drawn were themselves unique: two campuses, each with one special education school and one general education school. Each pair of schools shared a set of special education teachers across the general education school and special education school. The qualitative research approach was used in order to discover the details of best practices that are or can be used to support co-teaching in and across these types of environments.

### **Research Questions**

As noted, previous research on the working relationships of co-teachers is limited, and the present study addressed this gap by exploring patterns in co-teaching practices, Hang and Rabren (2009) recommended. In order to investigate the working relationships and best practices of co-teachers in the inclusion setting, the following research questions were explored in this study:

Research question 1: How do co-teachers perceive their most successful working relationships?

Research question 2: How do co-teachers define a successful working relationship?

Research question 3: What best practices emerge from an examination of co-teachers' views of their most successful working relationships?

This study is significant because it addressed a research gap regarding successful co-teaching in the vocational and technical school setting. The research is also significant in that it identified best practices from those in the field. The results provide specific insights and guidance to teachers in the target schools as well as educators across like educational settings. The results indicate the types of changes in working practices that may improve the ability of co-teachers to work together effectively. Such improvements may benefit learners in classrooms using these practices by increasing their ability to achieve their educational and vocational goals, an outcome that is likely to be advantageous to learners throughout their lives.

### **Setting**

The research was conducted in a county New Jersey high school vocational and technical district consisting of seven schools on five campuses. At the time of this research, the district maintained two campuses that served both special needs students and general education students. The study therefore focused solely on those two campuses and the four schools within them.

## Conceptual Framework

A qualitative strategy based on a constructivist framework was the most appropriate for this study because co-teaching involves the co-construction of a working relationship between two educators. Social constructivism is an appropriate framework for investigating this topic because it holds that social phenomena or objects of consciousness (in this case, working relationships and best practices) develop in social contexts (Denzin & Lincoln, 2011). A *social construct* is an idea, practice, or artifact constructed by a particular group (Maines, 2000). Thus, when one seeks to identify best practices in co-teaching, the implication is that one is looking for understandings produced via the interactions of co-teaching pairs. Any theory regarding best practices in co-teaching must be derived from the people doing the work. As a result, a conceptual framework was chosen based on the idea of deriving information from the people who are actively participating in co-teaching.

The social constructionist worldview was particularly appropriate for this study. The research setting consisted of a vocational and technical school district and was limited to the two schools within the district that utilize co-teaching. This shared work setting was important to the study because it bore both cultural and historical norms that were likely to have affected and influenced the participants' views. The participants consisted of co-teachers within these schools, and it was from what these individuals said in their interviews that meaning was constructed. The use of social constructionism was also useful in helping to understand best practices because it required the detailed

examination of information about complex interactions of co-teachers within the school district.

### **Roles of Researcher**

In my present position, I serve as a high school social studies educator in a split role as both a general education teacher and a special education teacher. When teaching courses in my capacity as a special education teacher, I work in a resource room as well as in inclusion settings with a co-teacher. I hold a master's of teaching degree with specialization in secondary social studies as well as an endorsement as a teacher of students with disabilities. My varied classroom experiences, coupled with relevant coursework, training, and professional experiences, have provided me with a solid foundation for teaching students with disabilities as well as general education students.

The current research was inspired by my personal experiences in a co-taught classroom. I noticed that when I had felt most successful at co-teaching, it was because both my co-teacher and I shared common values and upheld high levels of professionalism. For instance, a recent co-teacher and I, with whom I had worked for two school years, had common personal attributes that helped us to work well together. These included the ability to give and receive constructive criticism and a willingness to try new ideas and approaches. We also had common knowledge and skills in teaching students with diverse needs, as well as a lifelong love of our subject matter specialization of social studies. Finally, we strove to maintain a strong professional relationship based on communication, respect, and trust. My reflections on the experience of co-teaching led me to wonder whether these and possibly other areas of commonality underlie

successful co-teaching in general. In order to explore successful co-teaching more deeply, I decided to study the experiences of the other co-teachers in my district, in the hope of discovering their best practices and expanding knowledge about the factors that may contribute to co-teaching success.

### **Limitations of Study**

There were several limitations of this study. The first was that it was dependent on self-reporting and on the willingness of participants to honestly disclose their interactions and views to me as a researcher. Another limitation of the research was the possibility of researcher bias, given the researcher's own experiences in the district. To mitigate this, member checking was used as a means of ensuring that the views of participants were recorded faithfully. Finally, the study was limited in that it was confined to a small group of individuals in a unique educational setting. For this reason, results may not be fully generalizable, but could certainly be applicable and informative to many educational environments.

### **Definition of Relevant Terms**

For this study, a number of specialized terms will be defined. Some terms include explanation to improve contextual understanding of the definition employed during this research.

*Best practice:* A method or technique that has consistently shown results superior to those achieved with other means (McGrath, 2008).

*Co-Teaching*: Cook and Friend (1995) defined co-teaching as “two or more professionals delivering substantive instruction to a diverse or blended group of students in a single physical location” (p. 2).

*Individuals with Disabilities Education Act (IDEA)* “is a law ensuring services to children with disabilities throughout the nation. IDEA governs how states and public agencies provide early intervention, special education and related services to more than 6.5 million eligible infants, toddlers, children and youth with disabilities” (OSEP, 2012).

*Individualized education program (IEP)* states the individualized objectives of a student with a disability (U.S. Department of Education, Office of Special Education Programs [OSEP], 2006).

*Inclusion* is the placement and education of students with disabilities within the general education setting (Brucker, 1994). Inclusion differs from *mainstreaming* in that students are provided with a support system within the general education classroom, to include such items as “co-teachers, paraprofessionals, curriculum adaptations, accommodations, test modifications, specially designed materials, and technology and supportive services from counselors, social workers, and psychologists” (Wilson & Blednick, p. 9).

*Least restrictive environment (LRE)* means that a student with a disability should, to the greatest extent possible, be educated among non-disabled peers. These students are exposed to the same curriculum as their non-disabled peers, and are provided with aids and services necessary to reach their educational goals. (U.S. Department of Education, 2012).

*Mainstreaming* is the process of including special education students in a general education classroom as a means of providing a *least restrictive environment* (Vaughn, Bos, & Schumm, 2000).

*Vocational schools* or *career and technical schools* provide students with an education that teaches them skills needed to perform future occupations or pursue postsecondary education (U.S. Department of Education, Office of Vocational and Adult Education [OVAE], 2012).

## **Chapter 2**

### **Literature Review**

The purpose of this study was to explore, understand, and express stories of success and best practices from practitioners working as co-teaching pairs in the setting of a county vocational and technical school district. This chapter contains a review of literature related to the research topic. In this study, co-teaching best practices were derived from a vocational school environment in order to ensure that findings, both here and in the literature, were applicable to that setting. This literature review emphasizes the perspective of co-teachers, rather than the perspective of students taught by them.

Although a significant body of literature relates to the impact of co-teaching on student outcomes, the latter is not a focus of this chapter because the research questions relate to co-teachers' perceptions of their own working relationships. The literature review is focused on existing understandings about the success of co-teacher relationships, since these relationships can form the basis of effective education and teacher development for those teaching disabled and non-disabled students alike.

The first section of this literature review identifies co-teaching best practices and widely accepted co-teaching models. Next, a review of literature related to co-teacher relationships and the benefits of co-teaching, with particular emphasis on the benefits to teachers and from teachers' perspectives, is provided. Challenges and obstacles to implementing co-teaching in inclusive classrooms are then detailed in the third section.

## **Co-Teaching Best Practices and Models**

### **Best Practices**

An extensive body of literature exists regarding co-teaching best practices in general, but much of the literature is theoretical in nature. Relevant research studies related to co-teaching best practices are reviewed in this section. Common factors identified in the literature are role assignment, planning time and administrative support, instructional modalities, and training.

One of the most common best practices recommended in existing literature is the clear assignment of roles within the classroom. Researchers have proposed various methods to achieve a clear definition of roles in the co-teaching environment. For example, Wilson (2008) provided a list of 20 recommendations for special education teachers. These recommendations consisted of activities co-teachers could engage in to ensure that they maintained an active role in the classroom even when not presenting instruction. The suggestions included a number of purposeful observation techniques, assisting students one-on-one, and suggesting modifications to the presenting teacher's lesson.

Research has indicated that several factors could play a role in how roles are assigned in co-teaching situations. For instance, in a qualitative study, Weiss and Lloyd (2003) identified four roles that special education teachers played in co-taught classrooms, and found influences related to the adoption of each role. Special education teachers in classrooms where they did not have content knowledge proficiency tended to play a supporting role, whereas they played a team-teaching role in situations where the

general education teachers recognized the special education teachers' expertise (Weiss & Lloyd, 2003).

A lack of familiarity between co-teachers can act as an obstacle to clear role-assignment (Isherwood & Barger-Anderson, 2008). Co-teaching arrangements where the same two teachers work together for multiple years are more successful than one-year partnerships (Villa et al., 2008). Prolonged co-teaching relationships can allow teachers time to develop strategies and adopt roles that suit them, and can lead to better content and curriculum familiarity on the part of the special education teacher (Isherwood & Barger-Anderson, 2008).

Similarly, a report on co-teaching best practices (Sileo, 2011) indicated that discussing concrete details about the co-teaching relationship could help co-teachers avoid problems and conflict. Details about shared space, classroom management, and daily chores, for example, should be worked out explicitly (Sileo, 2011). Failing to discuss these details could lead to problems that interfere with instruction and prevent successful co-teaching (Bouck, 2007; Sileo, 2011). Before entering a co-taught classroom, teachers should allot time to plan their co-teaching approach and assign responsibilities (Sileo, 2011). Co-teachers explicitly decide who should be responsible for the following: planning and teaching lessons, preparing instructional material, deciding on co-teaching modalities to compliment lessons, planning assessments, and grading assignments (Sileo, 2011).

Planning time is another widely discussed issue related to co-teaching best practices (Bryant & Land, 1998; Magiera, Smith, Zigmond, & Gebauer, 2005; Scruggs et

al., 2007; Hang & Rabren, 2009). Perspectives found within the literature suggest that significant common planning time is essential to successful co-teaching. In a study of 45 co-teachers and 31 general education teachers in co-taught classrooms (Hang & Rabren, 2009), 100% of the teachers believed that they needed a common planning period in order to be successful in co-teaching. This trend is apparent throughout the literature. Scruggs et al. (2007) conducted a meta-analysis of 32 studies related to co-teaching in inclusive classrooms. They noted that, in almost all of the investigations they surveyed, teachers emphasized the importance of planning time.

Common planning, sometimes referred to as co-planning, is a dedicated period of time during which both co-teachers can plan lessons together. Bryant and Land (1998) suggested that common planning time is often misunderstood, and offered the following negative definition of common planning:

Planning is not meeting in the hallway, and it is not copying the general education teacher's lesson plans. It is not just modifying a test or using lesson plans that were written years ago. It is not one teacher "doing it all" or telling the other teacher what to do. (p. 28)

During common planning time, teachers can collaborate on lesson plans and exchange information about students, ensuring that individual education plans (IEPs) are followed and educational objectives met. The importance of co-planning is well documented. Authors have suggested that co-planning time is important because it allows both teachers to plan for students' needs and to assign clear roles. For example, if co-teaching time is not available, special education teachers tend to be relegated to a supporting role, which may reduce the efficacy of co-teaching (Magiera et al., 2005).

Some, like Scruggs et al. (2007), emphasized the importance of co-planning time without indicating how it should be implemented and structured. Others are more specific. For example, Conderman (2011) reviewed two possible modalities of co-planning. The first method involved identifying three different objectives for the lesson and matching these objectives to students or groups of students, such that all students could apprehend the overall goal of the lesson, most students could progress to a more advanced understanding, and some students could develop the ability to evaluate their knowledge. The second method involved using student-specific materials to achieve a uniform objective for the whole class (Conderman, 2011). Murawski (2012) also addressed specific ways to make use of co-planning time and provided 10 tips for effective co-planning. These included taking steps to remain focused during planning time, including having a set agenda to accomplish, and refraining from discussing individual student issues. Although recommendations like these can be valuable on the individual level, existing literature has not strongly supported any particular method of co-planning.

In addition to co-planning, the importance of training is mentioned routinely in the literature. Co-teachers commonly perceive a need for specific professional development that addresses how to co-teach. Villa et al. (2008) identified training as a key element to empower co-teachers to their full potential. In a case study of 129 co-teachers across five school districts, Pancsofar and Petroff (2013) addressed the importance of ongoing professional development. Teachers who received regular professional development reported increased enthusiasm and confidence for co-teaching

over teachers who did not receive the training. Some research has demonstrated that long-term training can change teaching practice and that it is important for co-teachers to undergo training together (Friend et al., 2010). In general, the literature supports two directions for training: more preparation for co-teaching in teachers' initial training courses and ongoing professional training for teachers who are already engaged in co-teaching relationships (Friend et al., 2010).

Within the literature related to co-teaching, many tips and techniques have been offered to improve the co-teaching experience. For example, Magiera et al. (2005) recommended that both co-teachers' names be put on boards and handouts to foster a sense of equality between the teachers. Dieter and Murawski (2003) organized their suggestions according to the areas where they perceived the biggest challenges in co-teaching: content, structure, assessment, and diversity. Murawski and Dieter (2008) provided a list of tips for co-teachers to use before, during, and after co-teaching in order to ensure successful co-teaching relationships. Many of the tips involve direct collaboration between the two teachers, and the authors strongly recommended making use of outside resources. Earlier, Dukhardt, Marlow, Inman, Christensen, and Reeves (1999) had outlined a similar strategy. Sileo (2011) also noted several specific techniques co-teachers could use to improve their relationships. Among these was a seven-step process to solve problems that arise during a co-teaching relationship. Broadly, existing literature has supported the need to adopt conscious strategies to improve co-teaching, but no particular strategy has gained widespread support. General themes include the use of outside resources, structured methods of planning and teaching,

and open communication between co-teachers. However, with regard to best practices, there is little agreement among researchers as to which co-teaching instructional model is the most effective.

### **Co-Teaching Methods and Models**

Researchers have stressed the importance of deciding on an instructional modality that works for both teachers. Numerous co-teaching models have been reported throughout the literature. In general, researchers have agreed that both co-teachers should participate equally in instructing the class. Small group instruction is also supported frequently.

Despite broad evidence supporting small group instruction, this instructional modality is not common. For example, Magiera et al. (2005) observed 49 co-taught classrooms and noted that the majority of general education teachers relied on whole-class instructional delivery techniques. This method, they argued, made it difficult for special education teachers to play an active role in the classroom. Similarly, Scruggs et al. (2007) noted that some general education teachers' adherence to traditional whole-class instruction methods presented an obstacle to co-teaching and frustrated special education teachers who would have preferred to take a more active role in instruction.

In addition to small group instruction, researchers have recommended tailoring instruction to individual students as much as possible. However, as was found in an analysis of four qualitative case studies, high-stakes testing influences co-teachers' perceptions of the success of co-teaching (Mastropieri et al., 2005). This may be because high-stakes testing often requires teachers to adhere to a rigid curriculum and a rapid

instructional pace, which may not be best for students and which could prohibit the use of more targeted instructional strategies (Mastropieri et al., 2005). The need for flexibility and instructional autonomy was present in earlier literature, as well (Dieker & Murawski, 2003).

In the literature, six basic, accepted models of co-teaching have been identified: (a) one teach, one observe; (b) one teach, one assist; (c) station teaching; (d) parallel teaching; (e) alternative teaching; and (f) team teaching (Cook & Friend, 1995; Friend, et al., 1993; Friend et al., 2010; Friend & Cook, 2012). Most of the literature has recommended a team teaching approach. However, the one teach, one observe and one teach, one assist models are the most common in existing co-taught classrooms (e.g., Magiera et al., 2005; Weiss & Lloyd, 2003).

In the one teach, one observe and in the one teach, one assist models, the two teachers assume very different roles within the classroom. The leading teacher delivers instruction while the nonleading teacher observes students or the teacher (in one teach, one observe), or assists students by helping with tasks or answering questions (in one teach, one assist) (Conderman, 2011). In these models, the special education teacher usually assumes a supportive role, while the general education teacher acts as the leading teacher (Weiss & Lloyd, 2003). Many researchers (e.g., Dieker & Murawski, 2003) specifically advised against this type of co-teaching. However, when the special and general education teachers alternate roles and equally share teaching and supporting responsibilities, these methods can be effective (Dieker & Murawski, 2003). In their

meta-analysis of 32 studies on co-teaching in inclusive classrooms, Scruggs et al. (2007) found that one teach, one assist was the most commonly used co-teaching model.

The station teaching model involves setting up different stations and having students rotate between stations. Each co-teacher is responsible for one station, and additional stations can be independent. Parallel teaching is similar, except that both co-teachers deliver the same content to different groups of students (Conderman, 2011). In parallel teaching, it is important that the groups be heterogeneous, rather than divided into disabled and nondisabled groups (Conderman, 2011; Dieker & Murawski, 2003; Friend et al., 2010).

In alternative teaching, one teacher provides extra or differentiated instruction to a small group of students while the other teacher provides instruction to the majority of students (Conderman, 2011). The literature uniformly suggests that alternative teaching, while useful in certain circumstances, should not be the norm in co-teaching classrooms (Conderman, 2011; Dieker & Murawski, 2003). Co-teachers who use alternative teaching should change the purpose and composition of alternative small groups frequently (Conderman, 2011).

Team teaching is widely regarded as the most effective co-teaching model (Conderman, 2011). In team-teaching scenarios, co-teachers are equal and share teaching responsibilities. Both classroom educators deliver instruction, support students, and assess students. Dieker and Murawski (2003) argued that co-teachers should maximize the resources offered by having two teachers in the classroom, and that this involves sharing all responsibilities. Despite support for team teaching in a number of research

studies, little research exists to support this modality. In a review of 146 research studies and syntheses, Solis et al. (2012) found that fewer than 15% of the studies included data on student outcomes, and even fewer studies examined differences in student outcomes across co-teaching methods. Accordingly, student outcomes have not been linked to specific strategies or best practices to adopt.

In their observation of 49 co-taught secondary mathematics classes, Magiera et al. (2005) found that the most common co-teaching model involved the special education teacher assisting with special needs so that the general education teacher could retain the role of primary instructor. The authors noted that co-teaching situations in which both instructors were active in teaching the lesson were very rare, and that special education teachers took the role of primary instructor even less frequently.

Weiss and Lloyd (2003) observed and interviewed six special education teachers who worked in co-taught classrooms at the middle and high school levels. The researchers identified four roles that special education teachers took: providing support, teaching the same content as the general education teacher in a separate classroom, teaching different content in the same classroom, and team teaching. In Weiss and Lloyd's study, the co-taught classrooms often did not conform to recommendations made in the literature—an observation that has been corroborated in other studies (e.g., Magiera et al., 2005).

### **Co-Teacher Relationships and Benefits**

Throughout the existing literature, the importance of a strong relationship between co-teachers receives emphasis. One of the most commonly cited influences on

good teaching relationships is personal compatibility, where the co-teachers share commonalities with one another, but communication often is viewed as equally important. The bulk of literature related to co-teaching relationships has indicated simply that teachers view good relationships as important factors contributing to success (Scruggs et al., 2007). The literature also contains many articles providing practical strategies for developing good co-teacher relationships (e.g., Murawski & Dieker, 2008; Ploessl, Rock, Schoenfeld, & Blanks, 2010). The literature search did not reveal any studies specifically examining the effects of good co-teacher relationships on co-teaching success. However, some research has concluded that strong relationships are key to successful inclusion classrooms (Devecchi & Rouse, 2010). At least one case (Sims, 2013) indicated that shared beliefs and experiences could contribute to successful co-teacher relationships.

In their qualitative study, Isherwood and Barger-Anderson (2008) identified a number of themes related to teacher relationships. Participants noted that incompatible co-teaching matches were common because there was no personality screening or other attempt to make good matches. This disparity affected the success of the co-teaching relationships in several ways. General education teachers expressed resentment at having to tutor special education teachers in content areas. The researchers suggested that this resentment indicated a lack of mutual respect between the teachers, stressing that the general education teacher should not have felt the need to tutor the co-teacher. Participants in the study reported being able to overcome incompatible matches, but the researchers argued that participants' experiences suggested that overcoming

incompatibility was unlikely and that better matches should be made at the outset.

Similarly, Scruggs et al. (2007) noted a trend in the literature related to compatibility. In a significant number of the studies they reviewed, teachers claimed that co-teacher compatibility was among the most important factors related to co-teaching success.

The interdependent relationship between co-teachers is an important topic in existing literature. Shapiro and Dempsey (2008) reported on a case study in which they team taught an interdisciplinary undergraduate college course. They identified interdependence as a source of potential conflict between co-teachers working together. The authors argued that, in classes that use a team teaching model, pedagogy and course material are integrated, creating a situation in which team teachers depend on each other for instruction to go smoothly. This, according to Shapiro and Dempsey, could create conflict in the areas of process, identity, and relationship. The authors concluded that there is no uniform solution to this potential conflict, but that awareness of the issues related to interdependence is important to ensure that team-taught classes are successful.

In a meta-analysis of 32 qualitative studies on inclusive co-teaching, Scruggs et al. (2007) also emphasized issues related to teacher relationships. One common theme they identified was the tendency to conceive of co-teaching relationships as marriages. In this view, the success of co-teaching relationships depends on some of the same personal and interpersonal characteristics that lead to the success of spousal relationships, specifically flexibility, compromise, and effort.

A similar model of co-teaching is also employed abroad. Devecchi and Rouse (2010) examined collaborative teaching at two secondary schools in England. The

purpose of the research was to determine how teachers, teaching assistants, and other team members created collaborative atmospheres to foster the success of inclusive classrooms. The results indicated that, at one of the schools, inclusion was much less successful due to a lack of explicit efforts to foster cooperation between teachers and teaching assistants (TAs). The researchers suggested that collaborative relationships were more important than, and could in fact be prerequisite to, clearly defined roles and responsibilities in the classroom. Among the ways in which the successful school fostered collaboration were making available shared resources, treating both teachers as autonomous individuals, encouraging mutual problem solving and support, including TAs in the decision-making process, and valuing TAs' skills and opinions (Devecchi & Rouse). The authors concluded that successful inclusion classrooms depend upon a teaching model that encourages participation of TAs. Although this research did not specifically examine collaboration between general education and special education teachers in the American co-teaching setting, the results of the study, like existing research on co-teacher relationships, strongly suggest that compatibility and openness are crucial to the success of co-teaching, regardless of the backgrounds of the co-teachers involved.

Successful co-teaching can have benefits for students and teachers alike. The present study focused on co-teaching as it relates to the teachers themselves, and evidence related to the benefit to teachers is limited in the literature. Nevertheless, studies that report on benefits to and from the perspective of co-teachers present a variety of viewpoints.

One of the most important studies on co-teaching benefits was conducted by Walther-Thomas (1997). The study focused on 18 elementary and seven middle schools with co-taught, inclusive classrooms. The study took place over three years, and participants included 119 teachers and 24 administrators in total. The researcher primarily used observation and interviews to collect data on the success of the co-teaching programs. Several major benefits accrued to teachers through co-teaching programs. First, teachers reported feelings of professional satisfaction because of student successes and program improvements. Second, teachers experienced professional growth because of the co-teaching programs; many teachers cited the co-teaching experience as the best professional growth opportunity they had ever experienced. Third, participants reported deriving a sense of personal support from their co-teaching partners. Teachers were reassured that their co-teaching partners shared their concerns and goals, and felt rewarded by the opportunity to share the teaching experience. Finally, teachers perceived an overall increase in teamwork and collaboration among faculty members because of the co-teaching programs. Teachers became more interested in collaborating and sharing techniques (Walther-Thomas, 1997).

Magiera et al. (2005) reported on the benefits of co-teaching in secondary mathematics classrooms. They argued that having a special education teacher and a general education teacher in the classroom created a more robust environment because the co-teachers' abilities were complementary. The general education teacher provides content knowledge, while the special education teacher provides knowledge of student learning and lesson adaptation (Magiera et al., 2005). However, this perspective is not

universal in the relevant literature. Several authors (e.g., Dieker & Murawski, 2003) have cautioned against this view of co-teachers, arguing that sharing skills and collaborating as equals is a more effective approach.

Most co-teachers have a favorable opinion of co-teaching and report having benefitted personally and professionally from their co-teaching experience (Scruggs et al., 2007). For example, teachers have noted that they learned from each other's skills and ideas during co-teaching. Some general education teachers mentioned that they learned how to adapt lessons to learners' diverse needs (e.g., Frisk, 2004). A case study conducted by Rytivaara and Kershner (2012) underscored the benefits of co-teaching for professional development and collaborative learning. Scruggs et al. (2007) noted that many co-teaching benefits were dependent on compatibility between co-teachers.

Although teachers who have co-taught mostly support co-teaching, the extent to which they support co-teaching depends on a number of factors. In their synthesis of meta-analyses, Solis et al. (2012) found that teachers tended to perceive co-teaching more favorably when disabled students had physical or sensory impairments, as compared to learning or behavioral disabilities. Additionally, the report noted that teachers were less likely to have positive opinions of co-teachers as students get older. Solis et al. suggested this phenomenon may be related to the emphasis on subject matter in secondary education, as compared to the emphasis on personal development in earlier years. Dieker and Murawski (2003) and Keefe and Moore (2004) wrote about specific strategies to help co-teachers succeed at the secondary level, including techniques necessary to effectively collaborate, plan, and assess as a co-teaching team.

## **Co-Teaching Challenges**

Existing literature related to co-teaching challenges frequently overlaps with literature related to co-teaching best practices. In general, identifying challenges as co-teachers perceive them has been one way in which co-teaching best practices have been identified. For example, Isherwood and Barger-Anderson (2008) made recommendations about co-teaching based on comments and complaints identified during interviews and observations of teachers in co-taught classrooms. Many of the challenges to co-teaching, therefore, are simply the opposites of best practices. Yet detailing the challenges that stand apart from best practices will add to the existing understanding of co-teaching in general. A few of the commonly reported challenges are detailed briefly below.

### **Communication**

As noted in the section on co-teaching best practices, clear role assignment is an important element of co-teaching success. However, researchers have discovered that communication difficulties interfere with assigning and delegating roles. For example, Isherwood and Barger-Anderson (2008), in their observations and interviews of 20 teachers in co-teaching arrangements, found that general education teachers hesitated to delegate responsibilities to special education teachers, and special education teachers hesitated to encroach on general education teachers' domains. Participants in the study suggested that, if administrators clearly defined roles and delegated responsibilities in co-teaching arrangements, this problem could be avoided. However, the researchers stressed interpersonal communication as a more effective remedy. Keefe and Moore (2004) noted that open communication, particularly at the beginning of the partnership, was critical for

the relationship's success. Sometimes, the researchers concluded, ongoing communication was challenging due to the participants' lack of time to meet with one another outside the confines of the classroom.

### **Teacher Interest**

Several studies related to co-teaching have indicated that both teachers must be committed to the co-teaching relationship in order for inclusive classrooms to be successful. There is, therefore, a general agreement that co-teaching should be voluntary, and that co-teachers should voluntarily initiate such relationships (Scruggs et al., 2007). The need for volunteerism is reinforced by studies in which teachers express frustration at being placed in co-taught classrooms with minimal consultation or advance notice (e.g., Isherwood & Barger-Anderson, 2008).

Involuntary placement in a co-teaching arrangement also relates to the implementation of co-teaching best practices. Teachers who do not have a strong interest in the co-teaching classroom may not be willing to put in the time and effort required to make co-teaching a success. An illustration of this principle is a phenomenological case study conducted by Gürgür and Uzuner (2010), in which the researchers found that the general education teacher expressed a belief in the importance of co-planning, but was not willing to set aside sufficient time to design lesson plans in accordance with this expressed belief. An earlier study (Austin, 2001) revealed a similar disconnect between teachers' perceptions of co-teaching and their behaviors in actual practice.

## **Content Knowledge**

Especially in secondary education settings, a commonly noted obstacle has been special education teachers' lack of content knowledge. Although this trend may be changing as new special education teachers with subject matter specializations continue to enter the workforce, many special education teachers enter co-teaching relationships without having already mastered content knowledge of a specific subject area and that may lead general education teachers to perceive special education teachers as unable to keep up with classroom instruction. This perception may lead general education teachers to resent having to explain instructional content to special education teachers (Isherwood & Barger-Anderson, 2008). The lack of content knowledge among special education teachers who lack a subject matter expertise has been linked to challenges in co-taught high school classrooms, where mastery of the higher-level curriculum is particularly important (Dieker & Murawski, 2003). Consequently, special education teachers may adopt more marginal roles in the classroom when they do not possess the content knowledge necessary to appropriately deliver instruction (Keefe & Moore, 2004).

## **Time**

Although co-planning time consistently emerges as a crucial element in the success of co-teaching, it also has been found lacking in existing co-teaching arrangements (Friend & Cook, 2012). Walther-Thomas (1997) investigated co-teachers in a 3-year study of 25 elementary and middle schools and reported that teachers regularly had difficulty finding adequate time to plan together. However, the problem

was more of a concern in the elementary schools, where school organizations did not include planning time in daily or weekly scheduling (Walther-Thomas, 1997).

In addition to teachers' difficulty finding time to plan together, placing students with disabilities in general education classrooms is a time-consuming process (Walther-Thomas, 1997). For example, co-teachers in one study frequently noted difficulty scheduling students into general education classrooms (Walther-Thomas, 1997). The intricate process of hand scheduling students, as opposed to relying on computer-based scheduling, was time consuming. Furthermore, teachers, in conjunction with other professionals responsible for scheduling, reported having to perform extra work to override computer scheduling when students received inappropriate classroom assignments.

### **Summary**

The chapter reviews research studies related to co-teaching in inclusion classrooms. The vast majority of available literature utilizes qualitative research methods, usually employing a phenomenological research design. Statistical and quantitative approaches are limited to meta-analyses (Scruggs et al., 2007; Solis et al., 2012). As a result, most existing research on co-teaching is not generalizable to co-teaching in general. Nevertheless, many common themes emerge from existing literature and provide a foundation for the present qualitative study.

Among best practices for co-taught inclusion classrooms identified in the literature review were clear role assignment (e.g., Weiss & Lloyd, 2003; Wilson, 2008), co-planning time and administrative support (e.g., Hang & Rabren, 2009; Magiera et al.,

2005), instructional modalities (e.g., Dieker & Murawski, 2003; Mastropieri et al., 2005), and training (e.g., Friend et al., 2010). Among the commonly accepted models of co-teaching (Cook & Friend, 1995; Friend et al., 1993; Friend, et al., 2010; Friend & Cook, 2012), team teaching is widely regarded as the most effective, although little research supports this assumption. Data indicates, however, that the one teach, one assist modality is the most prevalent (Solis et al., 2012). Strong co-teacher relationships are emphasized in the literature, with particular attention to personal compatibility (Scruggs et al., 2007). The majority of co-teachers support co-teaching, but challenges such as time pressure, communication issues, and content knowledge provide obstacles to widespread implementation of co-teaching (Scruggs et al., 2007; Walther-Thomas, 1997). Therefore, it is important to find out about co-teaching directly from the teachers themselves, in order to further study co-teaching in schools today.

The following chapter contains a description of the research method and design. The setting, sample, and population are described. Issues of reliability and validity are discussed. Data collection and analysis methods are also described.

## **Chapter 3**

### **Methodology**

The purpose of this qualitative, descriptive study was to elicit and explore stories of success and best practices from practitioners working as co-teachers in the setting of a county vocational school district, in order to develop recommendations for good practice co-teaching suitable in similar educational settings.

The previous chapters of the study presented the problem and a detailed review of literature regarding this phenomenon. A qualitative approach based on semi-structured face-to-face interviews was used for data collection and analysis. The descriptive component to the study was used to generate and analyze data from the interviews and a short post-interview survey. This chapter describes the research methodology and design of the study in detail, including the research setting; selection of research participants; instrument design; and the data collection, management, and analysis procedures used. The chapter also contains a discussion of the role of the researcher and other relevant issues such as reliability and validity, ethics, and the protection of the research participants. The final section of the chapter summarizes the key elements of the research design and methodology and introduces the results chapter.

### **Theoretical Approaches**

Research into social phenomena, such as co-teaching, can be conducted using one of two key research paradigms: positivism and constructivism. According to the positivism paradigm, which underlies most quantitative research, there is an objective reality in the social world that is discoverable and directly measurable using standardized

instruments designed very carefully in order to capture accurately the variables they wish to measure. Often, positivist researchers examine current reality in order to predict what will happen in the future, and they make inferences about wider populations based on research samples. In order to do so, the research setting often is simplified by isolating individual variables in order to explore the relationships between them using statistical techniques, while holding other variables constant so that they do not influence the results. The approach to analysis is deductive, in which the data are used to test pre-defined theories and hypotheses. Positivist researchers view themselves as neutral observers of the phenomena they study and expect that other researchers will reach the same conclusions based on the same data and analysis methods.

In contrast, the constructivist paradigm views reality as observable only indirectly, through the unique perceptions and experiences of the people involved. This paradigm underlies most qualitative research. From this perspective, researchers can never be fully objective, as they bring their own existing knowledge and perceptions to the research topic. As a result, constructivist researchers recognize that it is not possible to eliminate all sources of bias or expectations of the research findings. What is important, however, is that researchers be aware of this, and make every effort not to let their own views or expectations influence the research design, data collection, and analysis process. In qualitative, constructionist research, it is not seen as problematic that different researchers may reach different conclusions; this is a natural outcome of the interpretative nature of the research process (Rubin & Rubin, 2012). There is typically no intention to generalize from research findings to a wider population; instead, the focus

is on generating rich data that reflect the complexity of real-life experience and the ways that multiple factors interact to produce this complexity (Rubin & Rubin, 2012; Strauss & Corbin, 1990). In contrast with deductive research methods, the approach used in qualitative research is often inductive, with the emerging research findings used to develop new explanations and theories about social phenomena. Qualitative studies conducted within the constructionist paradigm should be no less rigorous than quantitative research; the conclusions must be well supported by good quality, unbiased research data, and by well documented and appropriate analysis processes.

Within the social constructivist paradigm, the present study was based on interpretive phenomenological research methods. These acknowledge that co-teaching takes place in a social context involving interaction between two actors (co-teachers) and that meaning is best derived from the direct experiences and perceptions of these actors. Three core philosophical or theoretical perspectives underlie this approach. The first is *phenomenology*, the view that social phenomena can only be understood through the personal meanings and interpretations attributed to them by the individuals experiencing them firsthand (Schutz, 1967). The second is *hermeneutics* or *interpretivism*, the study of the meaning of texts (in this case interview transcripts), which emphasizes the importance of contextual factors as well as individual experiences and is associated with the work of Husserl and Heidegger (Smith, Flowers, & Larkin, 2009). The third is *idiography*, a term introduced by the philosopher Windelband to describe the subjective or individual-centered approach to generating knowledge (Smith et al., 2009).

Interpretative phenomenological research typically uses interviews as the data collection method; these involve a “double hermeneutic” process of interpretation (Smith & Osborn, 2003, p. 51). First, the research participants interpret their direct experiences when reporting them in the interview. Second, the researcher interprets the experiences as they relate to the research question. These interpretative processes have been referred to as “meaning making” and “sense making,” respectively (Smith & Osborn, 2003, p. 51). A repetitious process of questioning, interpreting, and further questioning is employed by researchers as they gain knowledge and understanding of the phenomena being studied, a process defined by Smith et al. as the “hermeneutic circle” (2009, p. 91).

Social constructivism and interpretive phenomenology hold that social phenomena or objects of consciousness (in this case, working relationships and best practices) develop in social contexts (Denzin & Lincoln, 2011). A social construct can be defined as an idea or practice (or artifact) constructed by a particular group (Maines, 2000). Thus, when a researcher says he is seeking to identify best practices in co-teaching, he means that he is looking for understandings produced via the interactions of co-teaching pairs. Any theory regarding best practices, in this scenario, must be derived from people “in the trenches,” those doing the work. Thus, the conceptual framework for this study was based on deriving information from the people who actually participate in co-teaching.

### **Research Questions and Methodology**

In order to achieve its purpose of identifying and providing insights into good practice co-teaching, the study addressed the following research questions, the nature of

which determined the selection of the overall research paradigm and methodology for the project:

Research question 1: How do co-teachers perceive their most successful working relationships?

Research question 2: How do co-teachers define a successful working relationship?

Research question 3: What best practices emerge from an examination of co-teachers' views of their most successful working relationships?

Since the study was concerned with investigating co-teachers' own perceptions and experiences of successful co-teaching in depth, and not with examining statistical relationships between variables in order to generalize to a wider population, the constructivist approach was adopted. There are various approaches to research within the constructivist paradigm; the present study used interpretive phenomenological research methods. The latter are concerned with understanding how individuals interpret their lived experiences and attribute meaning to them, while also recognizing that these experiences take place within, and are influenced by, a shared context (Creswell, 1998; Smith et al., 2009). They are appropriate for this study because co-teaching takes place in a social context (the school setting) involving interaction between two actors (co-teachers), and meaning can best be constructed from the direct experiences and perceptions of these actors.

## **Research Design**

Qualitative social research generally involves gathering rich textual format data through qualitative methods such as interviews, discussions, and participant observation, and presenting it from the point of view of the research participants (Moustakas, 1994). As discussed previously, the interpretative method used in this study was a form of social constructivism, in which the researcher investigates the subjective views and experiences of research participants and interprets these in the context in which they occur. The research design for this study consisted primarily of one-to-one semi-structured interviews with the 15 co-teachers employed in the district, including 10 general education teachers and 5 special education teachers.

In semi-structured interviewing, research participants are initially asked the same questions, based on an interview protocol. Unlike structured interview items, which ask participants to categorize their views or experiences within a range of predefined responses, semi-structured interview questions are intentionally open to allow the participants to describe their perceptions and experiences in their own words, and to contribute any additional information felt to be relevant to the issue being discussed. The interviewer is not required to follow the interview guide strictly; he or she can vary the order of questions and ask additional questions to encourage the participants to expand on or clarify their answers. However, researchers must take care not to influence the types of answers given by the participant by asking leading questions or showing evidence of their own opinions on the issues. In contrast with unstructured interviewing, which is often used in ethnographic or life history research to obtain in depth personal data

(Fontana & Frey, 1994) and is more like an informal conversation, semi-structured interviewing allows for greater comparability of responses between different research participants and helps to ensure that the key issues of interest to the researcher are covered in the interview.

A mixed methods component to the research design was also employed, in which the researcher asked participants to complete a post-interview quantitative survey. This provided an opportunity to investigate whether the experiences and perceptions of the participants reflected those found in other co-teaching settings, such as by asking them to rank factors that previous researchers have found to be associated with successful co-teaching. The survey data also complemented the qualitative research findings by providing data that were used, for example, in comparing the views and experiences of general education teachers and special education teachers.

Overall, the combination of in-depth interviews and a short structured survey provided a useful research design with which to explore the participants' views and experiences. Although the small sample size did not allow for rigorous comparisons, the data provided an opportunity to compare, in broad terms, the views and experiences of special education and general education teachers against those found in the literature to date.

### **Setting, Population, & Sample**

The setting for this research consisted of two vocational high school campuses and four schools within a New Jersey high school vocational and technical school district. Of the district's five campuses, only two utilized co-teaching at the time of this research.

Both campuses utilized a “schools-within-a-school concept,” much like a typical university model. Courses were offered in a range of career majors, each designed to advance career and postsecondary education goals. A special education school operated on each campus and was devoted exclusively to serving students with IEPs.

The population of interest consisted of 15 co-teachers of mathematics, social studies (history), science, or language arts (English) who taught in the district. Since the number of co-teachers in the district was relatively small, they were all contacted and offered the opportunity to participate in this research, and all agreed to do so. The study was therefore based on a convenience sample, drawn from the wider population of co-teachers generally, consisting of all teachers serving in the district during the academic year 2012-2013 who had been co-teaching within the past two calendar years.

Because the research participants were also my colleagues, I took particular care to ensure that they did not feel pressured to participate and that their privacy was protected fully. In addition to the assurances and protections described later in this chapter, I attempted to prevent participants from feeling pressured by contacting them via e-mail rather than face-to-face or collectively, making it easier for them to decline if they wished to do so. This approach also prevented individual teachers from knowing who else was approached, how they reacted to my invitation, or what others said to me.

### **Recruitment**

Written permission to conduct the study was sought and received from the Institution Review Board (IRB) of Rowan University. Permission to conduct the study was also sought and obtained from the superintendent of the New Jersey vocational and

technical school district. The superintendent's permission letter is on file with Rowan University's IRB.

After the required permissions were obtained, I sent an e-mail to all potential participants explaining the study and inviting them to participate (see Appendix A). Because these individuals taught in the same district as I did and were known to me, the letter of invitation specifically stated that their decision to participate or not would not be shared with the district's administration and that their participation would be voluntary and confidential. Each person who agreed to participate signed a statement of informed consent (see Appendix B) and had the opportunity to review the complete transcripts of their interview. I informed participants of their right to withdraw from the study at any time, even during or after the interviews or survey. To protect the confidentiality of the participants, no personally identifying information was purposely gathered or retained, and no personally identifying information was revealed in the research findings.

### **Instrumentation**

A researcher-designed interview protocol was used to guide the interviews and to ensure consistency in questioning (see Appendix C). Interview questions were developed, based on the findings of the literature review, in open-ended format using "who," "what," "when," and "how" types of questions (Calder, 1998). The interviews in this way prompted participants to reveal perceptions and experiences of interest to the study. The questions were designed specifically to elicit information about ways in which co-teachers have worked successfully with another co-teacher, how co-teachers perceived and defined successful co-teaching relationships, and what practices they have

used that they considered most effective. To field test the interview protocol, I administered the questions to classmates and modified the questions as necessary to improve clarity. The interview questions were also reviewed by an expert panel consisting of my research committee and were refined based on the comments received.

I also utilized a five-item, structured survey instrument (see Appendix D), which I administered to the participants for self-completion following the oral interview. Based on the literature review, which showed that a number of factors have been proposed as important ingredients in the co-teaching working relationship, I developed and designed the survey questions to tap co-teachers' perceptions of the importance of various factors to the success of co-teaching relationships. An example of a question from the survey is item 1: "Rank, in numerical order, the characteristics of a co-teacher which are most important to you (1 is most important, 7 is least important)." Based on the literature review, the following choices were offered: *Effort, Teamwork, Subject/Content Knowledge, Communication, Personality, and Flexibility*. An *Attendance* option, not reflected in the literature review, was also offered to see if participants would notably rank a choice uncorroborated by current literature. The survey questions were vetted by my research committee and modified based on the feedback received.

### **Data Collection Procedures**

Face-to-face individual interviews were conducted in a quiet, private setting on each campus in order to increase participants' openness and to protect their privacy. On the day of the interview, I took with me a notebook, pen, iPad, interview protocol, survey, informed consent form, and a digital recorder. After verbally explaining the

purpose of the study, its procedures, and the participant's rights, I asked each participant to read and sign the consent form and provided each person with a copy of applicable contact information, including that of the researcher, my dissertation chair, and Rowan University. Only after the participant signed the consent form did I turn on the recorder.

The interview protocol was used to guide the discussion. However, the guide was used loosely, and the participants were encouraged to talk freely about their views on and experiences of co-teaching within the broad scope of the issues covered in the protocol. Throughout the conversation, I carefully kept track of the questions and responses in order to ensure that the objectives of the interview were met. In some cases, I asked questions in a slightly different order or omitted some, reflecting the ways in which the participants spontaneously provided relevant information during the interview.

Immediately after each interview, I collected data from participants using a written survey. The collection of data from two separate sources provided a means to check the validity of the participants' views by ascertaining similarities and differences between what was said during the oral interview and what they indicated in writing on the survey, and to clarify the context of their responses.

Respondent validation was also used to ensure the validity of the interview data. Respondent validation consists of asking participants to comment on the accuracy of the researcher's transcripts or depictions of them and their situations (Miles & Huberman, 1994). Participants in this study were asked to review their individual transcripts and to comment on them before the final versions were written up, and to review and comment on the final, aggregated draft results.

In qualitative research, consistency can be demonstrated by documenting all data collection and analysis procedures (Miles & Huberman, 1994), and this was an important component of my research process. Process documentation provides an important way of demonstrating the reliability of the research, since other researchers can use the documented information to evaluate the quality of the study and judge whether they would have arrived at the same conclusions based on the data and analysis techniques (Morse, Barrett, Mayan, Olson, & Spiers, 2002). Process documentation is also useful for discussing other points of view, in order to show that they have been considered (Miles & Huberman, 1994).

### **Data Management**

I utilized a research log for record-keeping purposes, with each participant assigned a number that I recorded in the log. Interviews were transcribed using a professional transcription service, and the resulting documents have been stored on a password-protected storage device in my home. I assigned each transcript the same number as that allocated to the interview. Participants were given an organizational pseudonym (e.g., "Participant A"), which I recorded against their real names in the confidential research log. I also used the research log to record the dates and durations of the interviews, as well as any observations or ideas that arose during the interviews. I am storing the log and transcripts of the interviews in a locked cabinet in my home for five years, after which I will destroy them by shredding. Any correspondence with participants, including signed consent forms, I am also storing in the same locked cabinet as the research log and transcripts, and these too will be destroyed after five years.

Digital copies of recordings and transcripts stored on the external storage device will be deleted after five years.

### **Data Analysis Procedures**

To analyze the interview transcripts, I used thematic analysis with an open coding approach. This is an inductive process that allows relevant findings to emerge from the data rather than using the data to test predefined theories or hypotheses. It involves identifying themes and other relevant findings from the interview material and categorizing the material by codes and subcodes relevant to the research questions. Braun and Clarke (2006) described thematic analysis as a method for “identifying, analyzing and reporting patterns (themes) within data” (p. 79) and noted that “a theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set” (p. 82). Open coding (Creswell, 2008) is the first level of thematic analysis, which involves examining all of the interview data in great detail and creating initial codes or categories of information to which relevant sections of text are allocated. In subsequent stages of the analysis, the data are re-examined and the codes are combined or redefined as necessary until all relevant data are recorded in ways that most accurately reflect the research questions and areas of interest of the study. This approach has enabled me to compare and contrast the experiences and views of the research participants in a qualitative way to identify subtle as well as marked similarities and differences between them.

For the qualitative data analysis, I used QDA Miner qualitative analysis software (Provalis Research) to facilitate the open coding and thematic analysis procedures, as well as a research log to record my thoughts about coding, themes, and patterns arising in the data. The ongoing process of coding and interpretation used in this study is what Glaser and Strauss (1967) described as the constant comparative method and is described further below.

The initial open coding methods involved considering the data in minute detail while developing some initial categories based on the interview guide and an initial reading of the transcripts. During the analysis process, I reviewed each transcript at least three times over the course of three months, and continually revised and refined the allocation of material to codes and subcodes. For instance, in the early stages of open coding, a wide range of factors were identified directly or indirectly by the research participants as contributing to effective co-teaching. These included, for example, possessing relevant content knowledge, the teamwork skills of their co-teacher, having common planning time, and being friends on a personal level with their co-teacher. At this stage, each factor was given its own code, with these codes being redefined or renamed as understanding of the concept or theme was developed through ongoing analysis of all of the transcripts. As the analysis process continued and it became clear that some factors were mentioned much more frequently than others, or that they often overlapped in the experiences of the participants, relevant codes were submerged into others, which were redefined or relabeled to reflect any resulting differences in the concept or theme being captured by the code. New themes were also defined to reflect

the researcher's interpretation of the interview material in relation to the research questions, and the transcripts were again re-examined to ensure that all relevant material was coded against these emerging themes.

This detailed coding process allowed me to break down, examine, compare, conceptualize, and categorize the data, and to identify patterns in the frequencies with which types of views and experiences were reported. Patterns were identified in the frequencies with which types of views and experiences were reported; similarities and differences in the views and experiences of general education teachers and special education teachers; sequences of events; apparent associations between different factors; and coincidence with other activities or events.

Open coding was particularly useful because the participants expressed their views on co-teaching in many different direct and indirect ways. For example, although the interview protocol was structured around the key research questions of the study, in practice, information provided in response to particular interview questions was sometimes more or equally relevant to different questions. The first part of the interview was concerned, for instance, with exploring the participants' general perceptions of co-teaching, while the last part was concerned with identifying best practices, including the participants' views on the most important factors ensuring that co-teachers can work well together. When discussing their general perceptions of co-teaching early in the interview, the participants often cited factors believed to contribute to successful co-teaching early in the discussion. In analyzing the interview data and reporting on the findings, therefore, I gathered and synthesized relevant data from all parts of the interviews, not

just the questions that initially were designed to generate these data. Similarly, though the study examined the use of different forms of co-teaching, such as team teaching and parallel teaching, these specific labels were not necessarily used at all points in the interview when discussing experiences of co-teaching. There was a need to interpret and extract relevant information relating to each form from various points in the transcripts so that it could be appropriately coded in relation to the co-teaching type being discussed. In this way, the overall distribution of views about different forms of co-teaching among the participants could be more accurately identified, as well as differences in views between general education teachers and special education teachers.

By examining the interview data in detail, subtle nuances could also be identified and incorporated when categorizing these views as negative, positive, or mixed, as well as when exploring the differences in experiences of co-teaching between general education and special education teachers. Identifying sequences of events was also important in order to understand the ways in which various factors contribute to successful co-teaching relationships. For example, this enabled me to identify the relative importance of personal attributes, such as being a good team worker, and organizational factors, such as having common planning time, in contributing to effective co-teaching relationships as they evolved over time, as reported by the participants.

Throughout the analysis process, I interpreted the findings for their significance and meaning, and recorded observational notes for use in presenting the results of the study and discussing their implications. The process was determined to be complete only when all relevant interview data had been categorized appropriately and themes and sub-

themes collapsed fully in relation to the research questions and the purpose of the study. Additionally, a colleague, who signed a confidentiality agreement, was engaged to act as an objective second coder on several of the transcripts as a check on the validity of my coding technique. Inter-rater reliability procedures help to ensure that thematic analysis is consistent and does not simply reflect the researcher's personal biases. This individual coded two transcripts at an early stage of the analysis to determine whether the initial codes they created were similar to mine. Only minor differences were observed in the codes created by the researcher and the second coder, which helped to confirm that the data were being coded objectively. At a late stage of the analysis when the themes and sub-themes were being finalized, the second coder was asked to re-examine two additional transcripts to ensure that the final definition of codes accurately reflected the interview content, as well as the research questions and areas of interest to the study. The second coder confirmed that this was the case.

The findings of the qualitative analysis are presented in narrative format organized by the key themes arising from the data, with selected verbatim quotes from the transcripts used to illustrate the main points in the participants' own words. This form of presentation generally is used in thematic analysis, and is the most appropriate approach in interpretative qualitative research, since it enables the researcher to present relevant research data in context. Words and phrases are not used in isolation in this approach; instead, the focus is on extracting meaning and significance from sections of the participants' reported views and experiences, which have been systematically

analyzed using the methods described earlier but without losing the sense of context actually experienced by the research participants.

The quantitative data from the post-interview survey were coded using deductive *a priori* coding, a process in which the response categories are predetermined (Crabtree & Miller, 1999), in this case based on previous literature on co-teaching. For example, these included concepts such as *effort, teamwork, subject/content knowledge, communication, personality, and flexibility*. The numerical findings are presented using tables, pie charts, and bar graphs for all the participants and for general education and special education teachers separately.

In presenting the results of the study, interview and survey findings within sections corresponding to key themes relevant to the research questions are presented together in order to determine their relevance to each research question. Any differences in the interview and survey findings are highlighted, and the results are compared, where possible, with the findings of previous studies on co-teaching.

### **Ethical Considerations**

All individuals who participated in this study were informed that their participation was voluntary and could be withdrawn at any time. Prior to each interview, I verbally explained the purpose of the research project to ensure that the participant was fully cognizant of my research intentions and his or her rights. Each participant was also asked to sign a statement of informed consent and later was given the opportunity to view their interview transcripts and make corrections, redactions, or additions if desired. Participants were all given the opportunity to withdraw from the study at any time. All

participant data have been kept confidential to protect the privacy of the participants, who are referred to in the findings by a general categorization (general education teacher or special education teacher) and by their gender. Care and attention were exercised to remove personally identifiable information in advance of coding.

### **Summary**

The purpose of this qualitative, descriptive study was to explore stories of success and best practices from practitioners working as co-teachers within a New Jersey vocational and technical school district. To fulfill that purpose, interviews and surveys in this study were designed to answer three related research questions regarding co-teachers' perceptions of their working relationships, their definitions of a successful working relationship, and the best practices that emerge from an examination of co-teachers' working relationships. Thematic analysis using qualitative and quantitative methods revealed the most common and unique practices and views among the co-teacher participants.

## **Chapter 4**

### **Findings**

As outlined in Chapter 1, this qualitative, descriptive study elicited and explored stories of success and best practices from practitioners working as co-teachers in the setting of a county vocational and technical school district, with the purpose of identifying how they perceived and defined their most successful co-teaching relationships and identifying best practices that might be adopted in other educational settings. Semi-structured interviews and a short post-interview survey were conducted with teachers in two campuses and four schools within a New Jersey vocational and technical school district. Fifteen teachers with experience of co-teaching in inclusive classrooms volunteered to take part in the study, consisting of 10 general education teachers and 5 special education teachers. This population represented approximately 38% of the total number of co-teachers currently working as co-teachers in the school district. This chapter sets out the findings of the study.

Since the study was intended to build on and ultimately add to the existing body of knowledge about co-teaching, the body of this chapter is structured using similar headings to the literature review, as these relate to the research questions of the study. It commences with an overview of the characteristics of the research participants, followed by the findings relating to the factors associated with successful co-teaching, co-teaching working relationships, co-teaching best practices, and the teacher-related benefits and challenges of co-teaching.

Within each section, I have provided the main relevant findings, based on the multiple methods of data collection and analysis used in this study. These included thematic analysis and software-assisted content analysis of the qualitative data from interviews, combined with quantitative analysis of data from the post-interview survey as relevant. A combination of textual discussion with verbatim quotes and graphical data displays are used to present the findings. I explore the extent to which the participants expressed similar or conflicting views, any apparent differences in the experiences and perceptions of general education and special education teachers, and any other factors that appear to influence perceptions and experiences of co-teaching. Throughout the chapter, I consider whether the results support or conflict with the findings of previous research and highlight any important new information that adds to the body of research-based knowledge about co-teaching.

The chapter concludes with a summary of the main research findings and an assessment of the extent to which they have answered the research questions and met the objectives of the study. This section also introduces the final discussion chapter of the dissertation, which draws together relevant findings from all sections to answer the study's research questions and explores the implications of these for policies and practices relating to co-teaching.

### **Characteristics of the Research Participants**

This section sets out the characteristics of the research participants by gender, teacher category, and subject specialty, number of years' experience of co-teaching, and numbers of current and former co-teachers. The research participants in this study

represent a relatively diverse (within the context of this research setting) and experienced group of co-teachers, whose views on and experiences of co-teaching can provide detailed insights into the use of co-teaching in a secondary vocational and technical education setting, as well as a comprehensive understanding of the factors influencing its effectiveness.

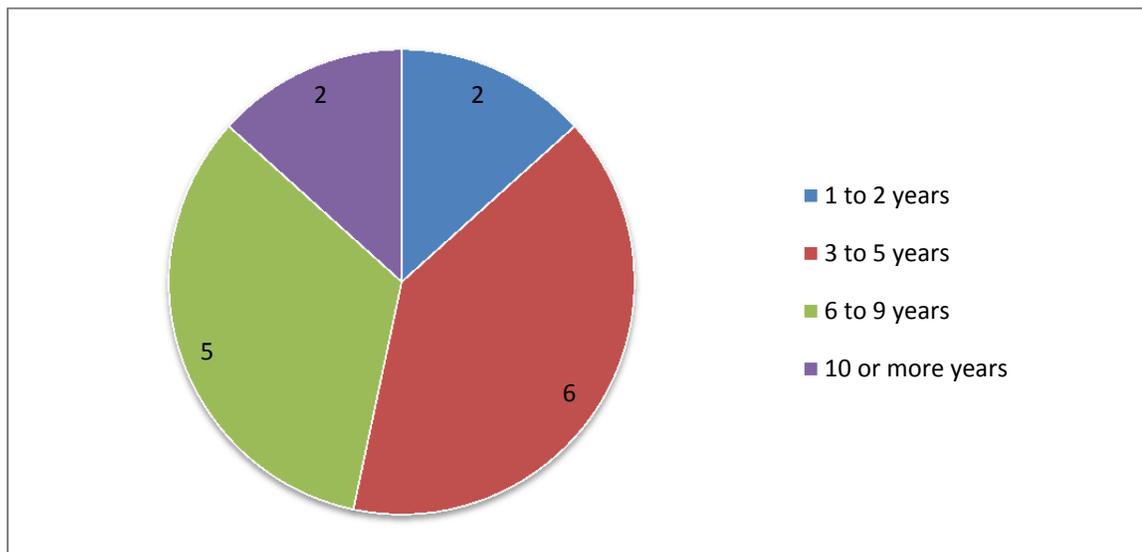
Five male teachers and 10 female teachers participated in the study. Ten of the research participants (67%) were general education teachers and five (33%) were special education teachers (Table 1). Though not formally asked for their certificated teaching subject area, if any, the interview data revealed that the academic disciplines being taught by the research participants included mathematics, English, science, and history. The distribution of participants by gender, teacher category, and subject area (where available) is shown in Table 1.

Table 1

*Characteristics of Participants by Gender, Teacher Category, and Subject*

Characteristic	<i>N</i>
Gender	
Male	5
Female	10
Teacher category	
Special Education	5
General Education	10
Subject area	
English	1
English/History	1
History	2
Mathematics	5
Science	2
Not Available	4

Initially, the participants were asked how long they had been serving as co-teachers. The reported length of time spent co-teaching ranged from just over a year to more than 10 years, and none of the participants had been co-teaching for less than a year. As shown in Figure 1, two of the research participants had been co-teaching for less than 3 years; six had been co-teaching between 3 and 5 years; five between 6 and 9 years; and two had been co-teaching for 10 or more years. Nearly three-quarters (73%), therefore, had at least three years' experience of co-teaching, including 90% ( $n = 9$ ) of the general education teachers and 80% ( $n = 4$ ) of the special education teachers. This indicates that, overall, the participants were an experienced group of co-teachers whose insights and perspectives could be expected to add considerably to the knowledge and



*Figure 1.* Number of teacher participants in each category: Years of co-teaching experience.

understanding with regard to good practices in co-teaching. The findings of the study reflect the views of co-teachers who are relatively new to the practice, including one with just over a year's experience, as well as those with long-term experience of co-teaching exceeding 10 years.

Since co-teachers sometimes have different co-teaching partners at any one time (e.g., for different subjects or classes), the research participants were asked how many co-teaching partners they currently had, and how long they had been teaching with their current co-teaching partners. The majority of the teachers ( $n = 10$ ) reported that they currently had just one co-teaching partner. Two said that they were not currently co-teaching, and three reported that they were currently co-teaching with two or more partners (Figure 2). Reported lengths of time teaching with current co-teaching partners varied between less than one year and up to three years.

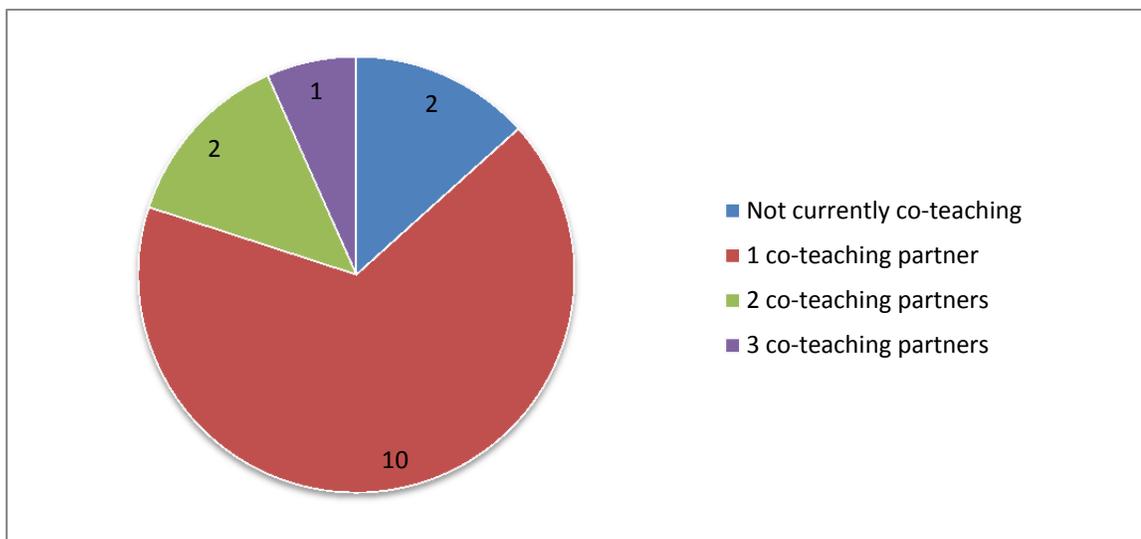
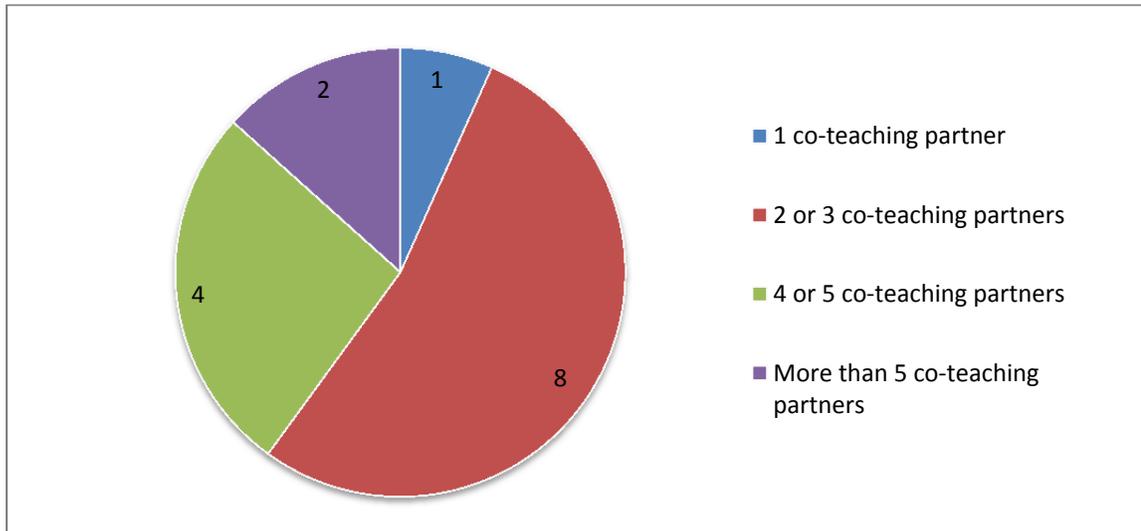


Figure 2. Number of teacher participants in each category: Current co-teaching partners.

To provide a more comprehensive picture of the participants' history of co-teaching, I asked how many co-teachers in total they had worked with since they first began co-teaching. All but one of the participants had experienced co-teaching with more than one partner. The majority ( $n = 8$ ) reported that they had co-taught with two or three partners over time, and the remainder had more extensive experience of co-teaching with four or more different co-teaching partners (Figure 3). In other words, although based on just 15 individual research participants, the study was able to draw on the participants' collective experience of 52 separate co-teaching partnerships.



*Figure 3.* Number of teacher participants in each category: Historical co-teaching partners.

## **Views on Co-Teaching**

### **General Opinions and Experiences**

Early in the interviews, the research participants were asked “What is your personal opinion regarding co-teaching?” The following categorization of participants

was determined by making inferences based on their specific responses to this interview question.

Of the 15 participants, 12 expressed generally positive opinions on co-teaching, while the remaining three had views that were more balanced between positive and negative views. None of the participants expressed completely negative views on co-teaching. All of the five special education teachers were generally positive about their experiences of co-teaching, and the interview material indicated that they favored co-teaching because of the specific benefits it offers for students with special needs, such as exposure to different teaching methods and greater attention from teachers. The three participants who had mixed views about co-teaching were general education teachers, all of whom had been co-teaching for three years or more and had worked with at least four different co-teaching partners. These teachers' mixed feelings appeared to be due more to implementation problems than to the co-teaching situation itself. For example, one teacher reported a lack of continuity in the arrangement, while another mentioned having made use of an inappropriate model. A third teacher noted a lack of knowledge on the part of the co-teacher. These comments, then, do not seem to reflect negatively on co-teaching itself but rather to indicate the inevitable existence of real world problems.

Because this research was based on a relatively small number of purposively selected participants, it is not possible to tell whether the overall positive opinions of co-teaching among this group reflect the overall experiences of co-teachers in the district more broadly. However, the findings do mirror those of other studies, which have reported that most co-teachers have a favorable opinion of co-teaching and feel they have

benefited from it personally (Scruggs et al., 2007). The lack of generalizability of the research findings is not a weakness, since the objective of this study was to examine experiences in depth in order to understand what contributes to successful co-teaching and to identify examples of good practice. Further, as the interviews progressed, the participants' responses revealed that, despite their generally positive experiences of co-teaching, they had also had encountered various difficulties or challenges. Their accounts of these challenges and how they overcame them provide equally useful material relevant to the objectives and research questions of this study.

Of the 13 participants who held predominantly positive views on co-teaching, the majority ( $n = 10$ ) qualified these by stressing that co-teaching has to be implemented well, using particular models in order to generate benefits, and that the teachers involved must be supportive of and committed to co-teaching. One of the participants remarked:

I think that co-teaching in theory is a very good practice. But like any other teaching practice, there are ideal situations and there are situations that are not ideal. But the thinking behind it and the theories behind it are certainly valid. ... You don't always have an ideal situation. It depends on who you're working with and the personalities of the teachers.  
(Female, General Education)

Thirteen of the 15 participants also reported that since they began co-teaching, they had had some negative experiences of the practice. Their explanations indicated that these were not due to problems with the concept co-teaching, but to weaknesses or shortcomings in the ways it had been implemented. Most frequently, participants attributed negative experiences to a perceived incompatibility with their former co-teaching partner or partners, or other personal factors that had made it difficult to work

together. Perceived incompatibility is considered at greater length in a later section on factors associated with successful co-teaching. Eight of the 15 participants cited incompatibility in some way or other, with four out of 10 general education teachers and four out of the five special education teachers doing so. The differences between the two groups of teachers may reflect the fact, supported by the literature and the current study, that general education teachers generally play a leading role in co-teaching partnerships as the specialist subject teacher, while special education teachers take a supportive role and have to adapt to the general education teacher's classroom environment and teaching style. Other factors reported to have contributed to negative experiences of co-teaching included a lack of continuity of a co-teacher pairing over time (two participants), inappropriate placement of special needs students in the co-taught class (one participant), or use of an inappropriate co-teaching model (one participant).

### **Changes in Opinion of Co-Teaching Over Time**

As a related issue, I asked the participants whether their opinions of co-teaching had changed over time and, if so, what factors they perceived had influenced this change of opinion. Eleven of the participants, including four of the five special education teachers, reported that their views on co-teaching had become more positive over time. Of the remaining participants, a general education teacher indicated that their opinion on co-teaching had become more negative over time, since the arrangements in which they been involved reportedly had not lived up to the best practice models which they had learned. The rest indicated that their opinions had remained the same over time, or had fluctuated depending on the co-teaching partnership in which they were involved.

The research participants whose opinions on co-teaching had improved over time identified three notable influences on this change: firsthand experience or observation of successful co-teaching, formal training or other learning, and continuity of co-teaching partnerships.

Having firsthand experience of co-teaching within a real classroom situation and becoming more experienced over time were factors that had reportedly improved opinions of co-teaching for eight of the research participants. One special education teacher explained this in terms of the real-life situations that arise in inclusive classrooms:

You can take as many classes you want in school to become a teacher, but you really don't know much until you're in the classroom setting. You can read all the books you want on teaching; I am sure it will help you, but once you get into the classroom and see how the kids react, that's when it's needed. Especially in the classes we have here because we have some students who have some disabilities in terms of emotions and the fact is you can have a class of – say I have a class of even 10 where I have a co-teacher and it's good. Let's say I have a student who just broke up with their girlfriend or boyfriend and they're crying in the back of class and obviously if you have one teacher it's going to be tough to work with the class. If you have two, the co-teacher can stand outside with this person and talk with them and calm them down, that way they can get back into class and get better. (Male, Special Education)

One of the special education teachers who indicated that experience over time had improved their opinion of co-teaching explained this in terms of observed long-term outcomes for students, while two general education teachers cited the experience of working with a particular co-teacher from whom they had been able to learn.

This year it's an instance where the teacher is very knowledgeable in a subject area and works well with the students. I get to see [my co-teacher]

perform and it's been a delight to see another teacher and see some methods that I'd like to apply to my own classes because of that. (Female, General Education)

The other factor that had positively influenced perceptions of co-teaching was having the opportunity to work with a particular co-teacher over a prolonged period. This factor was specifically cited by four of the research participants, including one special education teacher and three general education teachers. These participants indicated that collaborating with the same co-teacher over time provided the opportunity to learn from earlier mistakes and to get used to each other's ways of working. This resulted in a much more effective co-teaching arrangement.

It comes with year-to-year as you get comfortable with somebody, you know their signals or body language, so I'll know, or when they're getting frustrated, you can see it. And if [my co-teacher] looks in a certain direction twice within the same minute, I say uh-oh, let me head over there and shut that group down. So, yeah, it just comes with year after year, I think it improves because you get better and better. (Female, General Education)

Another special education teacher indicated that the main influence on their opinion of co-teaching over time had been improvements in their school's practice of co-teaching, as teachers had become more familiar and experienced with this method of teaching, and also had had some formal training in its use.

I feel that we're getting better at co-teaching and the practices of how it's supposed to be and to be more effective using that model ... We've had some training in it with professional development that has given us ideas to help us out. And we've gotten more comfortable with it and we practice more and that's the key too. (Male, Special Education)

Two of the general education teachers reported that their experiences of participating in formal training or informal research and learning had improved their opinions of co-teaching. These participants reported that they had attended seminars and other professional development initiatives relating to co-teaching, which they had found informative and useful, and which had helped overcome their initial skepticism about the practice.

I think my viewpoint has changed, [I] think it's expanded as I've learned more about it and the theories behind it. When I first started, I really didn't know the theories behind it ... Just really reading the journals and reading the education textbooks and books on co-teaching so I've tried to be very open to the idea and I've taken professional development workshops on it and read textbooks and read journal articles, so I try to keep up with all the latest teaching methodology. (Female, General Education)

These findings suggest that there may be initial resistance to the practice of co-teaching among teachers, which might be hindering its more extensive acceptance, and preventing students or teachers from receiving the possible benefits. However, the results indicate that this resistance often breaks down over time as teachers gain practical classroom experience or learn more about co-teaching. These findings also indicate the importance of organizational factors, such as ensuring that co-teaching partners remain together for a prolonged period of time and providing relevant training and professional development, play important roles in improving teachers' experiences and opinions of the practice of co-teaching. These and other factors contributing to the success of co-teaching are explored in further detail in the following section.

## **Factors Associated with Successful Co-Teaching**

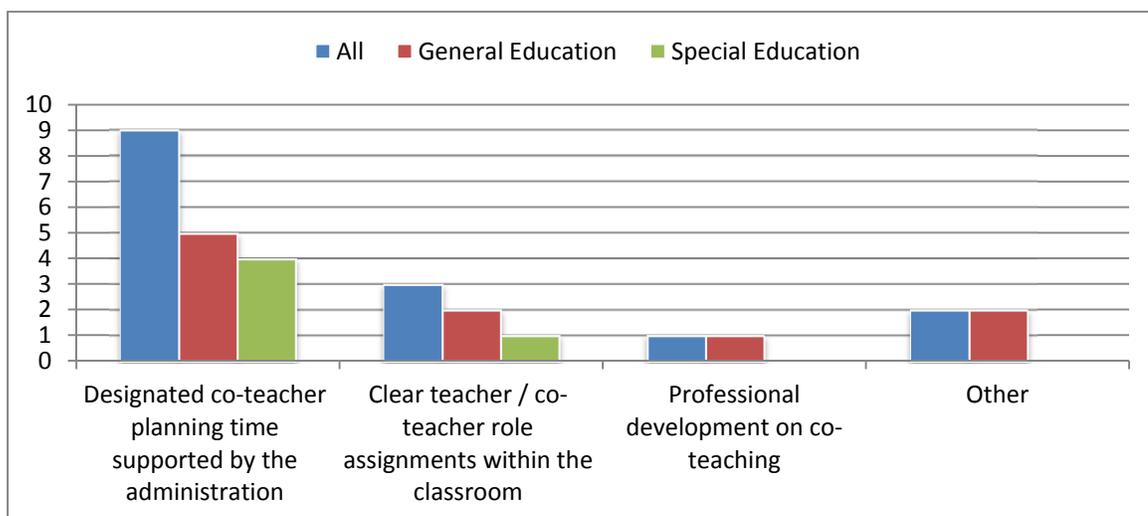
One of the primary objectives of this study was to explore how teachers perceive their most successful working relationships and to identify the factors that they believe have contributed to their success, specifically within inclusive classrooms in the secondary vocational and technical school setting. An additional purpose was to explore why certain factors contribute to the effectiveness of these partnerships in practice, and to highlight any differences between general education and special education teachers in the perceived importance of different influences on their co-teaching practices.

Previous researchers have found evidence that factors contributing to effective co-teaching arrangements include good relationships between co-teachers, common planning time, administrative support, clear role definition, continuity of partnerships over time, and training and professional development (Bryant & Land, 1998; Dieker & Murawski, 2003; Friend et al., 2010; Hang & Rabren, 2009; Isherwood & Barger-Anderson, 2008; Magiera et al., 2005; Mastropieri & McDuffie, 2007; Scruggs et al., 2007; Villa, et al., 2008; Wilson, 2008). However, these studies were conducted in educational settings that differed from the setting of the current study. Likewise, previous studies generated relatively little detailed qualitative information on how the success factors contribute to effective co-teaching in practice. Though existing literature supports the need to adopt conscious strategies to improve co-teaching, gaps in knowledge mean that no particular strategy has gained widespread support.

The factors indicated in this study draw on both qualitative data from the interviews and descriptive data from the post-interview survey. By gathering data in two

distinct ways, I expected that I would be able to shed more light on the factors perceived to contribute to the effectiveness of co-teaching in this educational setting, as well as on how and why these factors play an important role. Further, I expected to identify possible similarities or differences in the findings between special education teachers and general education teachers that might illuminate any consistencies or inconsistencies their responses throughout the process.

Since key success factors in co-teaching already have been identified by previous researchers, I decided to collect simple descriptive data on these factors in the post-interview survey by asking participants to indicate which of four specified factors could most improve their relationship with their current co-teacher. These factors were defined as “designated co-teacher planning time supported by the administration,” “clear teacher/co-teacher role assignments within the classroom,” “changing co-teaching instructional models,” and “professional development on co-teaching, or another factor (to be specified by the respondent).” The distribution of the post-interview survey responses on success factors, for all the teachers collectively and for general education and special education teachers separately, are shown in Figure 4.



*Figure 4.* Factors that most improve co-teaching relationship, according to teacher participants.

The quantitative data provide overwhelming evidence of the perceived importance of designated co-teacher planning time. Nine out of the 15 research participants indicated that this factor would be most likely to improve their relationship with their current co-teaching partner. Four out of five special education teachers, and half ( $n = 5$ ) of the general education teachers gave this response. In contrast, no more than three participants cited any other relationship improvement factor. None of the participants indicated that “changing co-teaching instructional models” would most improve their relationship with their current teacher, and this item was therefore excluded from Figure 4, above.

Since the participants were asked to select only one factor most likely to improve their current co-teaching relationships, the distribution of responses to this survey item is likely to reflect the greater relative importance attributed to common planning time and

does not necessarily mean that the other factors were seen as insignificant. Though the survey data serve to highlight the very important role of common planning time in contributing to effective co-teaching, the qualitative interview data provide a more rounded picture of the multiple factors participants perceived to be critical to co-teaching success.

During the interviews, care was taken not to influence the participants' responses regarding these factors, so I simply asked, "What factors are most important in insuring that co-teachers can work well together?" The qualitative findings reported in this section derive mainly from participants' responses to this particular question, but also incorporate relevant comments and observations made by the participants at other points. The interview data indicated that, from the perspectives of this group of general education and special education co-teachers in a secondary vocational education setting, there are a number of critical factors associated with successful co-teaching. These can be divided into teacher-level attributes and school-level factors. The research findings regarding these factors are discussed in turn in the following sub-sections, including observed similarities and differences between the views of participants.

### **Personal Attributes of Co-Teachers**

**Overview.** Based on the qualitative data from the in-depth interviews, the personalities, attributes, and mutual compatibility of co-teachers were seen as the most important factors in contributing to successful co-teaching; all of the research participants mentioned these in some form. This whole category of teacher-level factors can be subdivided, reflecting the interview material, into individual characteristics and

interpersonal compatibility. Interrelated components, such as being a good team player, being prepared to communicate with the co-teaching partner, and having a similar approach and shared goals, were mentioned at various points in the interviews. In particular, the discussion of findings draws on the participants' responses to the questions: "What factors are most important in insuring that co-teachers can work well together?" and "Who is your best co-teaching partner and why?" This discussion also incorporates responses to the question, "What do you believe are your personal strengths as a co-teacher?" Understanding what participants perceive to be their own personal strengths as a co-teacher, and what they value in a co-teaching partner, both provide important insights into the interpersonal factors contributing to successful co-teaching. To provide an indication of their relative importance, the numbers and percentages of participants citing different types of teacher-related factors appear in graphical form, with these findings supported by commentary and verbatim quotes from the interviews.

Descriptive findings are also included from the post-interview survey question in which participants ranked, in numerical order, seven characteristics of a co-teacher that are most important to them. Previous researchers (Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007) had identified these six characteristics as being important contributors to effective co-teaching: effort, teamwork, subject/content knowledge, communication, personality, and flexibility. The current study provided an opportunity to examine the perceived importance of these factors among co-teachers in this secondary vocational education setting.

In the following sections, the overall distribution of responses from the interviews and post-interview survey are presented first, followed by a more detailed discussion of the ways in which the most frequently cited factors are perceived to contribute to successful co-teaching, with verbatim quotes from the interviews.

**Overall distribution of responses.** The distribution of factors identified in interviews as personal strengths appears in Table 2, for all participants in total and then for general education and special education teachers separately. I identified these factors through a process of interpretation and categorization of the interview data. Since many of the educators identified more than one perceived personal strength as a co-teacher, the column totals in this table exceed 15.

Table 2

*Perceived Personal Co-teaching Strengths as Identified in Interviews*

Factor	N (%)	General ed.	Special ed.
		n (%)	n (%)
Subject expertise or teaching method	9 (60)	7 (70)	2 (40)
Adaptability or flexibility	7 (46)	5 (50)	2 (40)
Good support for students	6 (40)	3 (30)	3 (60)
Communication or teamwork skills	6 (40)	4 (40)	2 (40)
Good support for co-teacher	5 (33)	3 (30)	1 (20)
Organized or structured approach	4 (26)	4 (40)	0 (0)
Real world experience	3 (20)	1 (10)	2 (40)
Personality or attitude	3 (20)	3 (30)	0 (0)

Overall, nine (60%) participants indicated that their subject expertise or teaching method was a personal strength in co-teaching, with 40% of the special education teachers and 70% of the general education teachers identifying this factor as a perceived

strength. Subject expertise or strong teaching skills were the most frequently cited factor among general education teachers. Perhaps unsurprisingly, 60% of special education teachers were most likely to report that “good support for students” was their greatest strength, versus 30% of general education teachers. The second most commonly cited factor overall was adaptability or flexibility, cited by 46% ( $n = 7$ ) of the participants, followed by “good support for students” (40%,  $n = 6$ ) and communication or teamwork skills (40%,  $n = 6$ ). Other perceived personal strengths in co-teaching, mentioned in some form by several participants, were “organized or structured approach,” “real world experience,” and “personality or attitude.”

These findings are important to the objectives and research questions of the study, which are concerned with the identification of best practices in co-teaching. The ways in which teachers view their personal strengths in co-teaching form one dimension of their perception of a successful co-teaching partnership. Another important dimension, also explored in the interviews, consists of the factors they perceive to be desirable in a co-teaching partner. The distribution of responses to this interview question appears in Table 3, again listed for all participants and in total for general education and special education teachers separately. Since many of the teachers identified more than one desirable attribute of a co-teaching partner, the column totals in this table also exceed 15.

Table 3

*Important Attributes of a Co-Teaching Partner as Identified in Interviews*

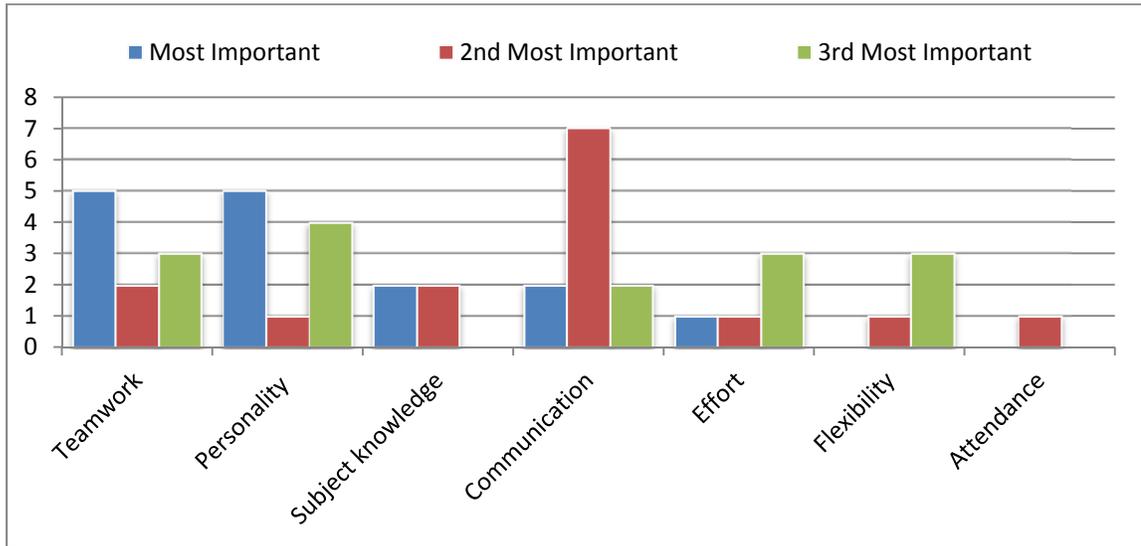
Factor	General ed.		Special ed.
	<i>N</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Good teamwork	13 (86)	9 (90)	4 (80)
Right type of personality	13 (86)	10 (100)	2 (30)
Flexibility	6 (46)	7 (70)	0 (0)
Subject knowledge	5 (33)	3 (30)	2 (40)
Communication	4 (26)	4 (40)	0 (0)

The notable difference between these findings and the previous findings on perceived personal strengths in co-teaching is that personal attributes and skills, specifically the co-teacher's personality and teamwork ability, were much more frequently cited as desirable than was subject knowledge. Overall, 86% of participants indicated that good teamwork and the right type of personality are the most desirable attributes of a co-teaching partner, followed by flexibility (46%,  $n = 7$ ), subject knowledge (33%,  $n = 5$ ), and communication (26%,  $n = 4$ ).

This overall distribution of responses is perhaps not surprising given the characteristics of the sample, since the majority of participants (67%,  $n = 10$ ) are general education teachers whose co-teacher will generally be a special education teacher who is not, in all cases, a content specialist. It is notable, however, that 80% ( $n = 4$ ) of special education teachers indicated that good teamwork is a desirable attribute of a co-teaching partner, compared with 40% ( $n = 2$ ) who indicated that subject knowledge is important.

The quantitative data from the post-interview survey confirmed these findings regarding the overall importance of teamwork and the right personality as important

attributes of a co-teaching partner. Participants were asked to rank each of seven co-teaching partner characteristics in terms of the highest, second highest, and third highest in perceived importance. The distribution of results appears in Figure 5.

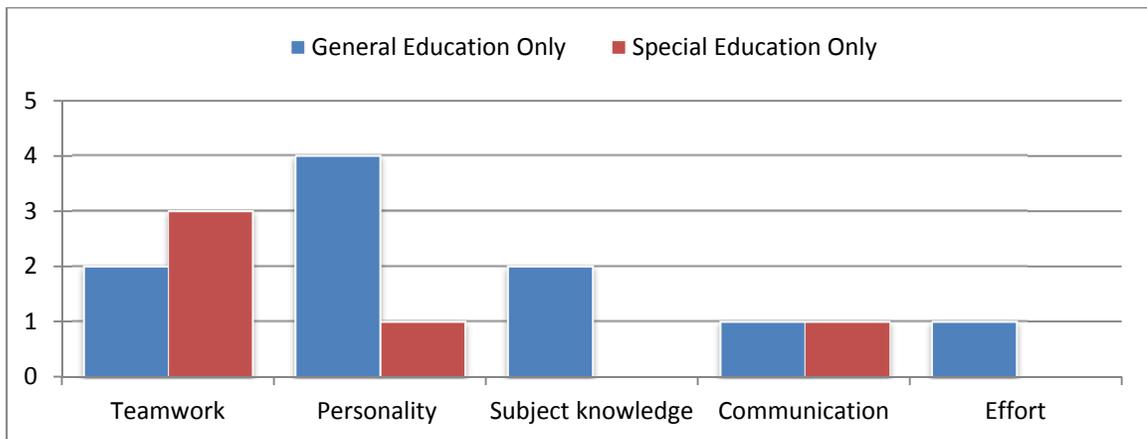


*Figure 5.* Perceptions of the most important attributes of a co-teaching partner, in rank order.

Overall, the survey responses confirmed that good teamwork and a suitable personality are the two most desirable attributes of a co-teaching partner, with good communication being ranked second highest in importance by almost half of the participants. No other factor was placed first, second, or third in importance by more than three of the participants overall.

Figure 6 shows which factors were ranked most highly in importance by general education and special education teachers separately. Though the numbers of participants in each group are too small to allow a reliable comparison to be made, the data indicate

that the majority of special education teachers in this study ranked good teamwork as the most important attribute of a co-teacher, while the highest number of general education teachers ranked personality most highly. The main importance of these results is that they confirm that both the general education and the special education teachers in this study regard personality and the ability to work as a team as more important attributes of a co-teacher than subject knowledge.



*Figure 6.* Perceptions of the most important co-teacher characteristic, by teacher category.

Teachers specifically attributed good communication in the survey responses was greater than in the interviews. However, this may reflect the ways in which the participants expressed their views and the subsequent categorization of interview data: communication is an important aspect of teamwork and is likely to be incorporated to some extent within this category based on the interview data. Teamwork and communication are therefore considered as a single category in what follows. The following subsections draw further on the interview data to explore ways in which most

highly rated personal strengths or personal attributes of co-teachers contribute in practice to successful co-teaching. Based on the interview and survey findings, these are teamwork and communication, personality and interpersonal compatibility, flexibility or adaptability, and subject knowledge.

**Teamwork and communication.** Many of the participants saw effective teamwork and communication as crucial to successful co-teaching. Participants perceived these to be especially critical in the absence of common planning time, as the co-teachers need to be able to work smoothly together without much advance discussion of what to cover in lessons and their respective roles and responsibilities.

One special education teacher described what good teamwork feels like based on her own experience. From the viewpoint of this teacher, good teamwork involves, first, the ability to adapt very quickly to the personality and teaching methods of a new co-teaching partner. Second, it requires that both educators understand and respect what the other is trying to achieve and tailor their approach to this.

I think, if you can at least work it so that 90%, you know, 95%, you're working together in harmony and not antagonizing each other, not annoying each other, and understanding what the other teacher is trying to do, and yet, have in mind that there is another teacher in the room that also needs to be part of what you are trying to do. (Female, Special Education)

The general education participants often led the teaching of students in a co-teaching arrangement due to their subject expertise. For them, good teamwork involved willingness to delegate, fully including their co-teaching partner within the classroom and in planning lessons and approaches to teaching, and ensuring that they had all the

necessary information and resources to fulfill their co-teaching role. One general education teacher, who saw this as a personal strength, described it in the following way:

I think that I'm very open to other people's opinions. I like when other people get involved. I want the class to not really see a difference between me and the other teacher, to know that both of us are the teachers ... In my class, I will always ask the other teachers to take an active role, especially if they have some kind of science background ... even if they don't have a science background, ask me questions. Stop me when they don't get it. (Female, General Education)

Several of the teachers also saw being well organized as a personal strength that contributed to good teamwork and effective co-teaching; three identified this as one of their own personal strengths in co-teaching. Examples of being well organized included documenting all lesson notes and materials in a user friendly way and following an established structure for lessons. These teachers perceived organization as important in ensuring that their co-teaching partner was well informed about and had ready access to lesson plans and other material. They saw good organization as enabling their students, especially those with special education needs, to have clear expectations of the lessons and to follow these more easily.

The method in which I teach – it helped, I guess, for co-teaching, because it's really, really organized. So it was easy to follow what I'm doing if anybody else comes into the room, because then it's easy for the kids to follow. It's easy for the special ed. kids because it's exactly the way that it's supposed to be. Everybody knows where everything is and where it's supposed to be and where it goes and where it goes on their page and what color it's supposed to be. So that is very helpful, I think. (Female, General Education)

Three of the five special education teachers identified as a personal strength their ability to provide support to their co-teaching partner. The interviews indicated that this constituted both practical as well as moral support; participants described specific examples of ways in which, as a co-teacher, they assist their partner in managing the classroom and ensuring that individual students do not distract others or hinder the progress of the class when they need extra help. They also described how co-teaching partners could offer much needed support to one another.

I can help the children with what [my co-teacher's] trying to teach them, and I can help [my co-teacher] with trying to get the kids focused on what [my co-teacher's] trying to teach because, a lot of the times, the kids are not behaving, not paying attention ... also, I can circulate while [my co-teacher's] teaching to try to explain things to the kids. I can pull kids out of the room who are not doing well within the room, or who need extra time, and bring them to another area, either to the library or to my room to work with them. (Female, Special Education)

Just being able to sit down and analyze the strengths and weaknesses of the class, the kids, and possibly talk about feedback on lessons, like, if she would say to me, "How did you think this lesson went?" and I would give [my co-teacher] feedback, or if I'm doing a lesson, [my co-teacher] would give me some feedback, you know, keeping each other positive, feeling positive about what we're doing together. (Female, Special Education)

When discussing their most successful co-teaching working relationship, both the general education and the special education teachers cited situations in which teamwork was very effective and described how the relationship became almost effortless at those times. One of these general education teachers also explained how this had a positive impact on the students, who were able to understand the role of both teachers.

[My co-teacher] didn't wait for me to do stuff; we shared responsibilities. If one day I was the instructor to present the lesson, the next day [my co-

teacher] did the “do now” or [my co-teacher] reviewed the material at the beginning of the class. So [my co-teacher] jumped in and we shared the responsibilities in the classroom. And I think that was a very good thing because it just felt, the kids, the students felt that we were actually sharing the classroom. It wasn’t only my classroom, it was both of us in the classroom, and they respected both of us at the same time. (Female, General Education)

Another general education teacher described the ways in which their co-teacher often seamlessly took over the teaching, when the leading teacher paused the lesson temporarily to help individual students.

During an actual lesson, [my co-teacher] would be floating around sometimes. Sometimes a kid might raise their hand to ask for help. I might stop and go over and help the kid. If I was still helping the kid and the other ones would be ready to move on ... [my co-teacher would] go up and pick up the rest of the lesson. [My co-teacher] could finish the sentence that I was talking about as I would stay with this kid. Sometimes, for the rest of the period, [my co-teacher would] just teach as I would sit with a kid. (Female, General Education)

Communicating well is an important aspect of teamwork, and good communication was specifically cited as a personal strength by six of the research participants and identified as a desirable attribute of a co-teaching partner by four participants. One of the general education teachers stressed how important it is for the co-teachers to be open and transparent with one another from the outset of a new partnership in order to maximize its likelihood of success.

I think first of all they have to communicate with each other. They have to be honest with each other about what their strengths are and what they’re not comfortable with. And what their experiences have been and whatrole they each want to play in the classroom. I think that’s the basis of it. (Female, General Education)

**Personality and compatibility.** The interview data also indicated that the level of teamwork and co-operation needed for successful co-teaching requires certain personality attributes and attitudes, as reflected in the fact that 13 of the participants identified co-teacher personality as contributing to effective co-teaching at some point in the interview. The findings revealed that successful co-teaching requires not just particular personality traits, but also requires compatibility of personality between the co-teaching partners.

The types of personal attitudes identified as contributing to successful co-teaching were having a positive attitude toward the practice of co-teaching and having respect for both their co-teaching partner and their students. When participants recounted experiences of co-teaching that were less successful, their descriptions indicated that their co-teaching partner at that time did not seem to favor co-teaching and therefore did not put in enough effort to make the arrangement work. In contrast, the participants' verbal depictions of their most successful co-teaching partnerships, or of the attributes that are desirable in a co-teaching partner, often included reference to the positive attitudes of their co-teachers, especially their rapport with or desire to help the students. The following quote from a general education teacher describes how a former special education co-teacher's focus on supporting students and understanding their difficulties had complemented her own content area knowledge so well.

I once worked with a special needs teacher ... Math was not [my co-teacher's] strength, but the amount of time and effort she spent with the students – [my co-teacher] would learn how I was teaching the students and . . . also noticed the students who were struggling. [My co-teacher] would take them and work with them on that topic ... I can't say that our personalities were so close to each other, but it was just really the amount of concern [my co-teacher] had for the students and [my co-teacher's] willingness to put the effort into doing it. I think that it really helped the

class a great deal. [My co-teacher] understood where the confusion was. Sometimes I can't – that's the weakness. I can't really understand where the confusion is because it seems to be so straightforward. (Female, General Education)

Other types of personality traits or personal attitudes that the participants identified as being important in contributing to a successful co-teaching situation included having great enthusiasm for their work (two participants) and being easygoing, with a good sense of humor (one participant). It was stressed that a positive attitude and good mood are highly important when co-teaching, since these influence the classroom atmosphere and have effects on both the students and the co-teaching partner, as described by the following two general education teachers:

I feel like the kids can play off of your emotions. So if you come in and you're bored in class, then the kids are going to be bored. If you come in and you have a smile, and you're really enthusiastic and energetic about what you want to do and what your goals are for the day, the kids can feed off it and they can tell that you like doing what you're doing. (Female, General Education)

If you're having a bad day, the other teacher picks up for that enthusiasm that day. Or if you're having a really good day, the teacher feeds off of that too; and their enthusiasm level goes up, which in turn brings the students' enthusiasm for the subject up. (Female, General Education)

Regardless of the personalities and attitudes of individual teachers, co-teaching partnerships are only likely to succeed, according to the research participants, if the partners are compatible in terms of their personalities, goals, and approaches to teaching. Overall, 13 of the 15 participants mentioned the importance of co-teacher compatibility at some point in their interviews. Reflecting the findings of previous researchers (e.g.,

Friend, 2008; Sileo, 2011), two of the participants in this study—both were special education teachers—used the metaphor of marriage to explain the importance of compatibility between co-teachers’ personalities. One said, for example:

It’s not like a marriage, per se, but in a way, it is, within the school milieu because you’re with this person every day. And you have to be able to kind of read the person a little bit, get along with the person, the personality of the person, be able to communicate after class, talking to this person. So I think it’s very important that you and the other person get along with each other. That’s the main thing. (Female, Special Education)

Again, this intuitive collaboration is important, not only for enabling the co-teachers to work together effectively, but also for ensuring a positive classroom environment. Four of the participants referred to some way in which students sense teachers’ moods and their ability to work together, including any tensions between them. One of these, a special education teacher, also explained that students become confused and fail to learn if the teachers are not in tune with one another.

If the teachers are arguing in class then the students won’t understand and they will completely lose interest in whatever was supposed to be taught. (Male, Special Education)

When talking about their “best” co-teaching relationship, three of the participants reported developing a close friendship with their co-teaching partner, which they believed enhanced their ability to work effectively together in the classroom. For example, one general education teacher reported that being friends with her co-teacher made it easier

for them to communicate informally, both within and outside the school day, and she believed this contributed to a more effective co-teaching arrangement:

There was more of a friendship basis immediately between the two of us ... We can talk about things related to school or not related to school ... It's very just bouncing things back and forth off of each other and just working really well. There's never any resistance either way.... Even if its outside of school, I can just shoot [my co-teacher] a text message and say: "Hey, I found something really great online, would you check it out and if you think kids would like it?" So we have that in school and outside of [the] school professional relationship. That makes it easy.  
(Female, General Education)

Other participants indicated, however, that the personal attributes of their preferred co-teachers and having a common approach and outlook were more important than having similar personalities or a bond of friendship between them. One even expressed the view that close friendship between the co-teachers could even be a barrier to an effective working relationship because it might prevent them from making the constructive criticisms of one another that might be necessary to improve the working relationship. Therefore, friendship effects were seen as having both positive and negative effects.

**Flexibility and adaptability.** Almost half (46%,  $n = 7$ ) of all the research participants indicated that being adaptable or flexible was a personal strength that contributed to effective co-teaching, and the same number identified these as desirable attributes in co-teaching partners. These attributes are especially important when individuals with quite different personalities or approaches to teaching are required to co-teach, as described by a general education teacher:

You have to be able to be flexible and be equals and respect that somebody else has a way that they do things. You have a way that you do things. It's probably not going to be the same exact way as each other. So you have to have a give and take. Even though some things might not be what you would do if you were on your own, you give sometimes just because you know that that's the way that that person works. (Female, General Education)

For the special education teachers, who are often required to take on different activities in a range of different subject areas and with different partners, flexibility and adaptability are especially important. This is particularly the case if there is little time available for advance discussion or planning between the co-teachers.

It could be almost like a surprise when you come in, and you have to be able to immediately adapt to that, which I think is very important, since the planning time isn't always there. (Female, Special Education)

I've worked with a lot of different teachers. I've worked with a lot of different teaching styles. I consider myself a chameleon in the sense that I can adapt to any environment and as a co-teacher. I think that is again imperative because if you're stuck in one type of style and you can't change, it makes it difficult. (Male, Special Education)

Another aspect of flexibility is being willing to learn and apply new ways of doing things. One of the general education teachers highlighted this as one of the top strengths that they bring to co-teaching. This trait involves not only being prepared to learn from their co-teaching partner, but also being proactive in bringing new ideas to the partnership and their shared classroom.

I do enjoy learning and so I do continue looking at new ways to co-teach and reading about it and trying to understand it better. I do try different things. I'll see something in an article and say, oh, I think I'll try this and I'll let the co-teacher know: "Hey, maybe today we'll try such and such." (Female, General Education)

One of the general education teachers described the way in which the partner in her most successful co-teaching relationship had contributed to its success by blending in easily both with the advance plan and the day-to-day teaching.

[My co-teacher] was able to kind of go with the flow, so give [them] the plan beforehand, we'd know generally what it is we were doing for the week, but then on a day-to-day basis, we could read each other. And so if I kind of went in a different direction, [my co-teacher] went with it.  
(Female, General Education)

**Subject-related or other types of knowledge.** This was the most frequently cited personal strength, mentioned by 60% ( $n = 9$ ) of the research participants in total, though it was less commonly cited as a desirable attribute of a co-teaching partner. Nonetheless, six of the participants, including four general education and two special education teachers, indicated their best co-teaching partner thus far had possessed good subject knowledge or other expertise that had contributed to the success of the arrangement. For the general education teachers, this meant that they did not have to spend extra time teaching their partners, as well as the students, the content of the curriculum, and also provided effective coverage in the classroom if they were ever absent, as explained by the following participant:

If I were ever absent for a few days, I would want to know that my kids were in good hands and that the lesson can continue without me being there. It should be that effortless and they should know: be prepared, be on time, and be knowledgeable in their subject area. So that's huge for me. (Female, General Education)

One special education teacher noted, on the other hand, that special education teachers need broad knowledge of the curriculum rather than in-depth subject knowledge,

so that they can adapt easily to co-teaching within any discipline. A general education teacher reported finding that a lack of subject knowledge on the part of the co-teacher actually can be an advantage, since the co-teacher can then follow the lesson along with the students, seeking clarification of points in ways that can also benefit the students.

Participants identified two other types of expertise or knowledge that are especially important in contributing to successful co-teaching. First, for two special education teachers in particular, knowledge of effective methods for teaching students with special needs was identified as being especially important in a co-teaching situation.

There's more than one step and the mainstream teacher maybe teaches it one way. If I could bring another way that I know helps my guys who are little bit slower learners or different learners, being, having experience in special education, and if I can bring that to the table, I think that's good.  
(Male, Special Education)

I would like to say I have the certain way or a certain skill that I could take a difficult concept in math, and make it very easy and simple to understand. I do that through a number of methods. (Male, Special Education)

Second, the interviews revealed that teachers sometimes contribute skills and expertise to a co-teaching partnership outside their own content area or teaching specialism, such as technology skills or real world experience. Five of the research participants indicated that one of their personal strengths as co-teachers is their ability to support learners in non-academic areas. These participants described ways in which their personal background or experience and their interpersonal skills enabled them, for example, to engage or build an effective relationship with students or to teach them life skills.

I relate to these kids because, you know, many times, I've already seen these behaviors. You know, I came from a very difficult environment before I started teaching here. I was teaching in an alternative high school where it was either feast or famine, depending on how you could deal with behaviors. (Male, Special Education)

... life experience, dealing with people, having experience playing team sports, being part of the team, coaching, you learn different ways of managing and getting along smoothly. I also think I take, almost to the point of being a nitpicker ... behavior, things like showing up on time, showing up prepared if you go into the workplace .... I stress that with the kids all the time. (Male, General Education)

### **School-Level Factors**

In line with the findings of previous studies on co-teaching, the research participants in this study also identified various factors requiring involvement of the school administration as important contributors to effective co-teaching. By far the most commonly cited of these was allocated common planning time. Other organizational factors cited by the participants included continuity of the co-teaching partnership and training or professional development in co-teaching.

**Common planning time.** From the interview data, common planning time emerged as the second most frequently cited factor associated with successful co-teaching. Ten of the 15 research participants stressed the importance of common planning time. This included all five of the special education teachers and half ( $n = 5$ ) of the general education teachers. The difference may reflect the fact that special education teachers often play a supportive role in the classroom and are less likely to take the lead on lesson planning, a role that usually falls to general education teachers as the subject specialist. Common planning time is therefore especially important to enable special

education teachers to feel properly involved as an equal teaching partner. Further, as the interview findings indicate, a lack of common planning time is likely to reduce the effectiveness of co-teaching and potentially create difficulties for both teachers.

The results revealed that common planning time was not sufficiently available to the majority of participants who highlighted its importance. However, one participant, a general education teacher, reported that, in response to a need identified by co-teachers in a seminar, their administration had recently implemented a common planning period at the end of the school day.

The administration actually had our prep period synchronized this year where we're both the last period of the day, so they thought about one of the complaints that we had when we had those seminars ... One of the suggestions from all the teachers was if we have a common planning time, we would be able to prepare lessons together and share ideas ... That helps a lot because we can grade papers together, we make sure the grading is done equally, we make sure to get ideas from each other on what we want to plan, and we go through planning the week where he knows of things – certain students will be out, or the special needs side of the building's doing something that might impact our schedule. So that helps a lot too. (Female, General Education)

Of the remaining nine educators who highlighted the perceived importance of common planning time but reported that they did not currently have this available to them, some had experienced common planning time in past co-teaching partnerships and reported that they had found this very helpful. Two of the teachers acknowledged that common planning time is often difficult to coordinate because of complex scheduling and teacher workloads, but emphasized that it is important to do so.

I think another thing is that you have to be able to have some kind of planning with this person, which is very hard in our school system and

probably in any school system because everybody's so busy with their own planning. And unless you have the same preparation hour as the other person, you don't really get to communicate much. (Female, Special Education)

It takes a lot of effort to be co-teachers. It's not something that can be done on the fly. I feel like it needs, in order to work together, it's not something you can do on the fly. It takes that planning and preparedness to come in and really work together. So I think something that needs to be addressed anywhere is having that common planning time, because you can't always work around the other person's schedule. If you wanted to come early or if one person can stay late and the other person can't stay late. So I think that's really important for it to be successful is to have that common planning. (Female, General Education)

The participants stressed both the reasons that common planning time is important for successful co-teaching, and the difficulties often faced by co-teachers when this planning time is not available. They highlighted that common planning time is important in co-teaching because teachers need to determine in advance the respective roles of the teachers, plan lessons, and collaboratively review student progress and the effectiveness of different teaching strategies or models. One of the special education teachers stressed that this is possible using a small number of common planning periods per week, not necessarily a dedicated daily period.

We got to share and we got to work together to look at students. I don't think it was a five-day-[a]-week time. It might have been a two-day-a-week time, but it gave us an opportunity to just sit back and have that time to see how it was going, where the strengths were, which students were understanding the topics, which students seemed to have [inaudible] needs that needed to be addressed.

Another of the special education teachers observed that students, especially special needs students, benefit as much as the teachers from having well planned and well structured lessons.

You can plan it before and that way when you go into the day or into the lesson, you're good. You know the roles. They're pretty much clear. The kids know it. They know what's coming. "Hey today, all right, we're gonna do the do now, Mr. [my co-teacher]'s gonna go over the homework, I'm gonna teach a lesson and then we're gonna do groups." And it's nice. The kids know what's going on and I know what's going on. I mean, there's no surprises and it's nice. (Male, Special Education)

The findings indicated that if common planning time is not available, it puts considerable pressure on the co-teachers. Particular pressure is experienced by the teacher not involved in planning the lesson, who needs to be able to react spontaneously and adapt to the lesson and the requirements of the lead teacher. One of the general education teachers described this problem in the following terms:

If that teacher is just walking into the room and she's learning about what we're doing that same second that the kids are, that's gotta be a really special person who's able to jump in and be like, "No, no, no. Don't do it that way. Do it this way." How would they have known that if they're learning it the exact same second the kid is? (Female, General Education).

A special education teacher observed that it was almost impossible to implement formal models of co-teaching properly without having common planning time available to discuss which models to use to meet the needs of their students, or to review their effectiveness.

The common planning time is what is very important in order for it to be a successful co-teaching method or co-teaching model. When you don't

have the common planning time, like for instance myself and the teacher I'm doing it now with, we have no time to plan lessons together. We have no time to sit there and say this one is able to do this, not able to do that. Okay, we have seven students that can't do this. We have 10 students that can't do this. Let's each touch on the subject today in a different mode or a different method. And when there's no time for that, obviously, the co-teaching model can't be successful. (Male, Special Education)

Three of the participants who did not have common planning time available reported that they carry out joint planning with their co-teacher whenever they can find spare time, either during or outside the working day. However, they emphasized that this ad hoc approach was less effective than common planning time, or that it impinged on the teachers' own time. For example, one of the special education teachers explained how he and his co-teacher use break times or early mornings for discussions, but admitted that, as a result, their lessons sometimes fell below the standard they would like to achieve.

I feel at times a lesson could have been better if we had time to prepare; however, since we don't have similar schedules we can't prepare and that is what does us in ... It ends up being a lot of missed lunches or staying after or coming in early to talk. It is kind of awful whenever you're doing a lesson and you have no idea what is going on. (Male, Special Education)

The comments of another special education teacher revealed that common planning time does not necessarily involve sitting together to plan lessons. This participant explained that when they had common planning periods within their subject areas in the past, the primary benefit had been the availability of other teachers for informal discussions or sharing of resources.

I think it was two years ago; all the [subject] teachers had the same prep which was nice. We could walk into each other's room, we can get ideas

from one another, we all knew that we all had prep the same time and I think that was really helpful. If we needed a certain book or we wanted to get some worksheets from one another or just talk about a topic, “Hey, how did you teach this?” It was nice. We could all meet which I think was very helpful and that’s key. (Male, Special Education)

**Continuity of co-teaching relationships.** Continuity was cited as a factor contributing to successful co-teaching by four of the general education teachers and one of the special education teachers. Continuity was mentioned as a contributing factor to the participants’ most successful co-teaching relationships, and the lack of continuity in other relationships was regarded as a problem that had reduced the teachers’ effectiveness. Although many of the participants indicated that they were paired with different co-teachers each year, one of the general education teachers provided an example of a longer-term co-teaching relationship to demonstrate the ways in which continuity results in greater benefits:

Every year got better and better because, by the end of like the third year that I worked with [my co-teacher], [my co-teacher] knew the content. [my co-teacher] knew the lessons. [My co-teacher] knew everything that was gonna happen before it happened. So, like the first year was not nearly as great as the third year. The first year they had us together for one period. It was all right ... I taught, and [my co-teacher] helped people. But year after year of the same person, the same content, the same class – like we were the same grade every year – by the third year, we developed – like it was a really – a much better environment than it was the first year when it was just me teaching. Like, [my co-teacher] could teach just as easily as I could. We became much more of that team teaching. You couldn’t tell who was the [general education] teacher and who was the in-class support by the end of continuing the same partnership year after year. (Female, General Education)

A general education teacher’s comments also supported this theme, stating that, since special education teachers often do not have a background in the subject area in

which they are co-teaching, continuity of co-teaching partnerships enables them to become more competent co-teachers in that same subject area.

For the special ed. teachers who don't have a background in that subject area, it would really help them because they would get more proficient at it. Then they could take more of a leadership role in the class. They could co-teach more properly, like where you have both teachers really giving input and planning. Then, if you taught together more than one year, you could say, "Oh, we did this last year. This didn't work. Do you have any ideas for this year?" So the longevity of keeping the partnerships – partners, that would be good. (Female, General Education)

### **Training and Professional Development**

The post-interview survey findings suggest that the research participants perceived little need for professional development in co-teaching. In the interviews, however, three of the participants – including two special education teachers – did express the view that training or professional development is important, though often lacking.

I think that the continued professional development is a good thing ... Just because you say you're doing something doesn't necessarily mean you're doing it well ... It does work, but it has to be implemented carefully. You can't just say you're doing it and then solve all the problems, so I think that's the thing, I think continued training and development. I think that's really important. (Female, General Education)

Only four of the participants, including two general education and two special education teachers, indicated explicitly in the interviews that they had received formal training or professional development on co-teaching. Two of these participants said they

had watched videos of successful practice in co-teaching, and indicated that these had been helpful in convincing them of the potential benefits.

### **Summary of Factors**

This section has presented the findings of the study relating to the factors contributing to successful co-teaching, from the perspectives of this group of general and special education teachers in a secondary vocational and technical education environment. Largely, these support the findings of previous research; the most important factors identified by these participants include the personalities and compatibility of co-teachers, having common planning time, and continuity of co-teaching partnerships over time. The value of this study lies in its ability to provide in-depth information about how these factors have an impact on the effectiveness of co-teaching and to confirm their importance in a secondary vocational setting. The findings have also demonstrated that, among this group of research participants, there is a high degree of consensus about the main factors contributing to effective co-teaching, regardless of the participants' own content area or degree of experience in co-teaching. The results provide a useful foundation for these types of schools to develop initiatives and strategies that focus on the identified critical success factors. How this might be approached in practice will be considered in the final discussion chapter of the dissertation. Before this, the following two sections examine in more detail the findings regarding the working relationships between co-teachers and their use of different co-teaching models and practices to highlight examples of best practice.

## **Successful Co-Teaching Working Relationships**

Two of the principal objectives of this study were to investigate what constitutes a successful co-teaching working relationship from the perspectives of co-teachers themselves and to explore what makes these relationships work well. Two related findings are examined in this and the next section respectively: the importance of roles and responsibilities and the use of co-teaching models.

### **Allocation of Roles and Responsibilities**

Previous researchers (e.g., Sileo, 2011) have found that clear role assignment can help reduce the risk of problems and conflict and improve the effectiveness of co-teaching relationships. In the current study, the results of the post-interview survey indicated that participants do not generally feel that it is important for the roles and responsibilities of co-teachers to be defined formally by the school administration; only three participants defined this as the factor most likely to improve their co-teaching relationship.

To generate insight into how roles and responsibilities are defined in practice and to illustrate examples of successful co-teaching working relationships in the classroom, the participants were asked in the interviews to describe their “best” co-teaching relationship and the roles that they play or played in the classroom with this co-teaching partner. They were also asked how they decide “who does what” with a new co-teaching partner. The following discussion of findings incorporates material from both of these questions.

As might be expected, the interview material indicated that it is most often the general education teachers, usually the subject matter experts, who take the lead on defining co-teaching roles and responsibilities. Special education teachers' level of involvement in this process varies among co-teaching relationships. Their involvement seems to be highest when roles and responsibilities are allocated in a deliberate way and when the curriculum is discussed at the start of the school year or on a regular basis throughout the year. Six of the general education teachers and three of the special education teachers reported that they had used or been involved in this type of systematic planning of roles and responsibilities, especially when paired in a new partnership. These discussions had been used, for example, to find out about the new co-teaching partner's prior experience, preferred teaching methods, and classroom experiences in order to allocate roles appropriately, or to discuss the type of co-teaching to be used during the year ahead and in response to particular situations. For example, one of the general education teachers reported using an initial meeting to find out as much as possible about their new co-teacher and their experiences and preferred approach to co-teaching:

At the beginning of the school year, especially when I start with a teacher that I haven't taught [with] before, I will ask them, "What's your teaching philosophy, what are you comfortable with in the classroom, when you have co-taught with other teachers, what model have you used and how did it work for you?" (Female, General Education)

Another example of good practice in planning involved the use of an initial meeting to discuss models of co-teaching and the related roles of the respective co-teachers, in order to identify in advance whether and when to implement them:

At the beginning of the year, we talked about the parallel teaching so we kind of planned this ahead of time. We said when it comes times to testing or it comes time to [teach] a hard topic, let's do this. (Male, Special Education)

Among the remaining participants, however, it appeared that roles and responsibilities were not systematically planned in advance, but rather were developed almost automatically or by default because of the co-teachers' types of expertise or their prior experience of working together. Some reported using a form of ad hoc day-to-day planning or improvisation in the classroom that seemed to work well for the teachers concerned.

I've never had a situation where we struggled with the roles. They kind of just fell into place. I think it's more communicating upfront and again, with the repeating co-teachers year after year, you kind of fall into a comfortable mode and if something's not right, you change and fix it. (Female, General Education)

It was a gradual thing with communications and experience and working together. It's not like we sat down for 45 minutes ... the more time you spend together, the more time you spend talking on these issues, problems and what about this and this kid has this problem. Let's try this with that kid, that kind of thing. (Male, General Education)

Regardless of whether roles and responsibilities were determined in advance or developed spontaneously over time, three main factors emerged as important influences on the way that roles were allocated between the co-teachers. These were individual expertise or seniority, past experience of effective practice, and personal preferences.

In some co-teaching situations, the senior or more experienced teacher took the lead in co-teaching, with the other taking more of a secondary role. More commonly, the

teachers reported that they alternated the leading teaching role, depending on which partner had more knowledge of the content matter.

Curriculum-wise it was usually my position to say, “Okay, here’s our general topic. Here’s what I had in mind in terms of information or activity or assessment.” ... Once we figured out kind of like a rough sequence, we would divide it up. And I would say, “Okay, well you’re really good at explaining directions during . . . , so why don’t you take this part? And I’ll do the assessment because then I’ll know if they really got the content piece.” So we would kind of divide it up based on what each other’s strengths were, if that makes sense. (Female, General Education)

In these inclusive classrooms, roles also were determined by whether the co-teachers were special education or general education teachers. In general, the participant special education teachers worked mostly with students who had special needs, or monitored their progress and initiated modifications if necessary to materials or tests. However, one of the reported benefits of co-teaching was that the roles of special education and general education teachers often overlapped or were interchangeable in the classroom; this was generally believed to be advantageous to the special needs learner.

I mainly am concentrating on the special needs kids in the classroom, and I’m grading them, and [my co-teacher is] giving me flexibility to grade them the way I want to grade them. They all take the same tests, but if one of my kids needs to retake a test or needs extended time, that’s fine. (Female, Special Education)

When co-teachers had worked together in the past, they were able to split their roles and responsibilities in ways already proven to be effective. However, there was also evidence of roles and responsibilities in new co-teaching relationships being

allocated based on different former partnerships, which might not necessarily be the most effective way of drawing on the skills and expertise of a new partner.

At first when you're with a new person, you do what you did the year before. So I had a different co-teacher, I just did everything; I just started doing everything, so, and [the co-teacher] just kind of fell into that role. I fell into that role and that's the way it was. (Female, General Education)

There was considerable evidence that co-teaching roles often arise from personal preferences rather than any systematic consideration of respective skills and experience, with terms like "comfortable with" and "likes to" appearing quite often in the interviews. Again, though this approach often seemed to work from the perspective of the teachers interviewed, it may not necessarily result in the optimum allocation of roles and responsibilities for successful outcomes in the classroom.

[My co-teacher] was comfortable with ... doing the teaching, writing the lesson plans, and me supporting..., at times taking over..., and actually just trying to keep the kids' behavior more in line and circulate to help the kids who don't understand what's going on or who aren't focusing enough on what she's trying to do ... the way we set it up from the beginning is that [my co-teacher] would do the main lesson planning. (Female, Special Education)

### **Indicators of Co-Teaching Effectiveness**

In this study, it was not possible to determine whether there is any direct relationship between the ways that roles and responsibilities are determined and the effectiveness of the co-teaching relationship, or to assess objectively the degree of success in such relationships. Future research might use external indicators of effectiveness and relate these to the attributes of co-teaching partners or the ways that

roles and responsibilities are allocated. In this study, to provide insights into how the co-teachers recognized effective working relationships, the research participants were asked to describe specific instances when they realized that the relationship with their “best” co-teaching partner was working well. These findings might be used to help develop indicators of co-teaching effectiveness for use in future studies.

The responses to this question fell predominately into four categories: concrete evidence of academic achievement among students, benefits relating to the classroom atmosphere, benefits relating to improved student discipline, and general positive feelings that the relationship is going well and generating forward progress for the students and co-teachers alike. Some of the responses overlapped these three categories, and participants gave examples of individual specific instances when they realized the relationship was working. Two of the teachers reported that they realized the relationship with their best co-teaching partner was working when their supervisor or another individual observed them co-teaching and expressed positive views about what they had witnessed.

The most commonly cited indicator of success in a co-teaching relationship was evidence of academic improvements or progress among students. Four of the 10 general education teachers and four out of the five special education teachers gave this response. Examples were given of unprecedented academic progress or increases in confidence among their students, which resulted from the co-teaching methods and the extra attention they received from having two teachers in the classroom. A special education

teacher and a general education teacher, respectively, explained ways in which progress was perceived to have occurred because of co-teaching:

There may be a kid who may not raise his hand or come to the board. In a smaller setting, now he feels a little more comfortable and he can raise his hand, he can go to the board and now look, he's doing it. Not just the smart kids are learning again but everyone's learning. (Male, Special Education)

I once went to a classroom after school and I found like five or six of our students who had come to [my co-teacher] to get that extra help for the work that they were doing. [Co-teacher] would have initiatives for them to come and they came. It just made me see that the progress that was being made, how much of an important [inaudible] [co-teacher] was to that progress that was being made in the classroom. It not only helped the students to learn the topic of math and the algebra that we were doing; it also helped them to feel that somebody valued them. (Female, General Education)

Six of the research participants, again split equally between general education teachers and special education teachers, reported that they had realized the relationship with their "best" co-teaching partner was working when they observed improvements in the classroom atmosphere or in their ability to appropriately manage all the students and give them the attention they need.

One of the ah-hah moments, it was months ago, we were broken into stations and I was sitting quietly, working with six students ... I hadn't realized how long it had been since I looked up at the classroom and my co-teacher was actually standing between two students with his hands on their shoulders. Something happened that I wasn't aware of, and boy was he there to save the day, because they were actually poking each other's machines on and off and a little fight had started, and I would have never noticed that. (Female, General Education)

There was a day when [my co-teacher] was absent and I had to be alone in my classroom and dealing with the students. And I realized that it wasn't so smooth and nice all of a sudden. Like they were talkative, they were disruptive. And with [my co-teacher] around it was a completely different atmosphere in the classroom ... with [my co-teacher] they were mild and paying attention, staying focused. (Female, General Education)

For five of the participants, including both special and general education teachers, the realization that the relationship with their “best” co-teaching partner was working well came when they experienced positive feelings about the relationship. These feelings could be about the relationship in general or about specific aspects of it, such as their own personal involvement in teaching the students or the ease with which their co-teaching roles and responsibilities within the classroom had been readily interchangeable.

I can't think of one epiphany, I think it was really just more of a growing experience. I was fortunate that I was with [my co-teacher] for three years so we really grew together. And it was really just a matter of expanding the experience and building on it and I can't think of like one moment when it changed. (Female, General Education)

When you can walk out of there and you feel like you're a teacher as well, you kind of feel wow, that really worked and you feel good. You don't feel like you're just a fly on the wall or someone who's supposed to sit back and just be like an aide. When you feel like an active participant and the kids see you as such and you're able to help them out and you're working towards the same goal and you both have similar theories on education and you both have similar attitude towards the kids and they have similar attitude towards you, you know that it's working. (Male, Special Education)

### **Use of Co-Teaching Models**

One of the main objectives of the study was to explore the use in practice of different co-teaching models in inclusive classrooms within a secondary vocational

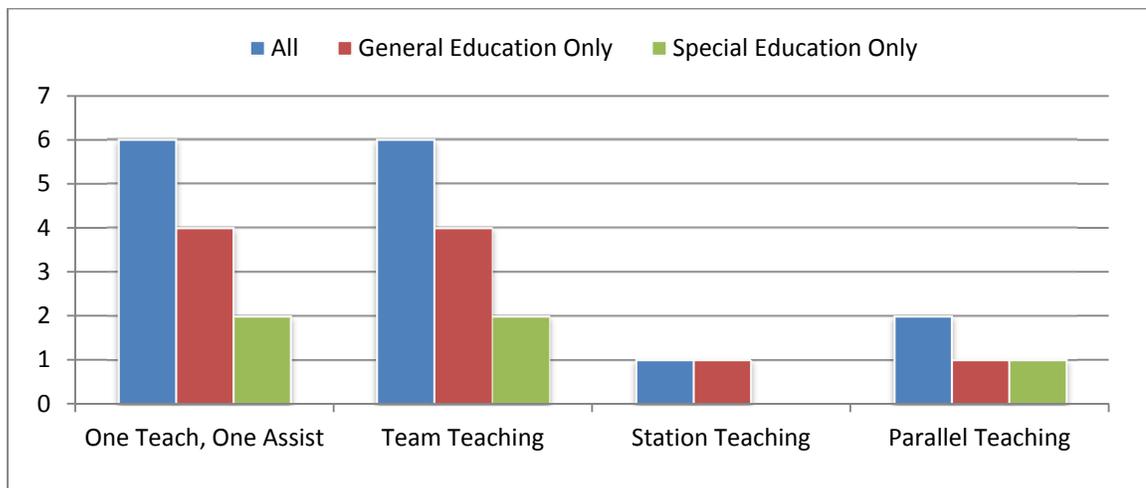
school. A number of established co-teaching models exist and appear quite extensively in the literature, with recommendations made as to their use. As noted previously, six models have been defined in the literature: (a) one teach, one observe, (b) one teach, one assist, (c) station teaching, (d) parallel teaching, (e) alternative teaching, and (f) team teaching (Cook & Friend, 1995; Friend & Cook, 2012).

In general, previous researchers have recommended use of the team teaching model, in which both co-teachers participate equally in instructing the class (Conderman, 2011). Some have also supported the use of small group instruction or the alternative teaching model, which offers benefits in certain circumstances (Conderman, 2011; Dieker & Murawski, 2003). However, research has revealed that these best practice models of co-teaching are not used extensively in practice, and one reported implication is that special education teachers have found it difficult to play an active role in the co-taught classroom (Magiera et al., 2005; Scruggs et al., 2007). The models most often observed by previous researchers are the one teach, one observe and the one teach, one assist models (e.g., Magiera et al., 2005; Weiss & Lloyd, 2003). The one teach, one assist model, for example, can be effective when general education and special education teachers alternate their roles and equally share teaching and supporting responsibilities (Dieker & Murawski, 2003). Despite the overall consensus that team teaching represents best practice in co-teaching, there is actually very little research-based evidence to support the superiority of this or any other co-teaching model in terms of demonstrated student outcomes (Solis et al., 2012).

In the current study, both interview and survey data on the research participants' use of various models of co-teaching were collected. The purposes were to find out about the use of different co-teaching models and their perceived benefits and drawbacks; to help fill gaps in the existing body of research-knowledge about the perceived effectiveness and drawbacks of each of these models, specifically in a secondary vocational and technical education setting; and to provide examples of the use in practice of different models of co-teaching that might be adopted by other co-teachers. Given the qualitative, descriptive nature of the study, it did not yield statistical associations between models of co-teaching and student outcomes. Instead, the focus was on identifying examples of the use of different models of or approaches to co-teaching that the participants perceived to be successful. The findings delivered in this section draw on both the interview data and a question in the post-interview survey. In the interviews, the teachers were asked, "Is there an established co-teaching model that works best for you? Why do you think it works best?" To provide further insights into good practice in co-teaching, they were also invited to talk about a specific time when they had created an instructional activity with their co-teacher that had resulted in high levels of student achievement, regardless of whether the activity fell clearly into one of the established models. In the post-interview survey, to provide a general overview of preferences among this group of co-teachers, the research participants were asked to indicate which of the six co-teaching models they believed worked best in their classroom.

## Overall Use of Co-Teaching Models

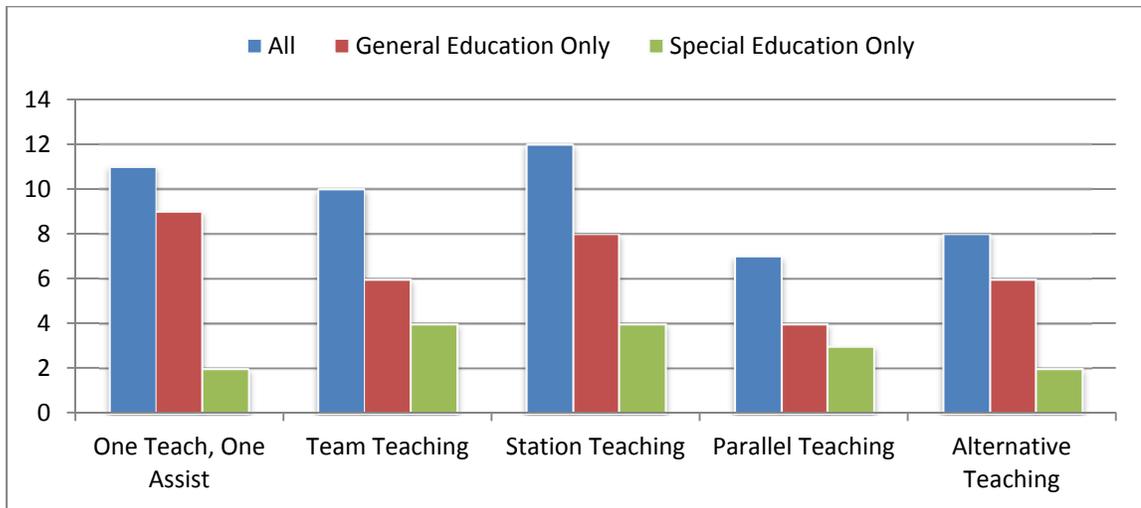
Figure 7 shows the findings of the post-interview survey question, for all participants and for general education and special education teachers separately. Two established models of co-teaching, one teach, one assist and team teaching, emerged as the preferred approaches among the research participants in this study, with six participants in total expressing a preference for each of these models. One participant expressed an overall preference for station teaching, and two preferred parallel teaching. None of the educators expressed a preference for one teach, one observe or alternative teaching, and therefore these models are not shown in the chart. No notable differences were found between general education and special education teachers in the ratio of their preferences for different models.



*Figure 7.* Preferred model of co-teaching, by number of teacher participants.

A more complete picture of the overall use by the research participants of co-teaching models emerged from the interviews, however, with almost half of the

participants ( $n = 7$ ) indicating that they use a variety of models at different times and for different purposes. The overall numbers of participants reporting the use of each type of model at any time appears in Figure 8, for all the participants and for general education and special education teachers separately.



*Figure 8.* Actual use of models of co-teaching, by number of teacher participants.

This indicates that, at least in this secondary vocational education setting, no single model of co-teaching is seen as most effective. Different models are perceived by the teachers to offer benefits at different times, even within particular subject areas. The most striking finding is the very high proportion of participants (12 out of 15) who reported using station teaching. It is also notable that almost half of all participants in each case indicated that they sometimes use parallel teaching or alternative teaching.

The combined results of the survey and the interviews therefore demonstrate that although one teach, one assist and team teaching are the overall preferred models of co-teaching for these participants, other models are preferred for specific activities or in

particular circumstances. The interviews revealed evidence of an active and ongoing process among the co-teachers of matching models to activities and learning objectives. Both the general and special education teachers described using as many as four models at different times within their classrooms.

It's multiple. I think the easiest one is the team teaching one. I think it's just effortless when you have that kind of – those personalities that mesh well together. So that's probably what we do the most. And then the second one that we like and we do the most is, would be the one teacher, one assist. And [my co-teacher] would do the small group instruction. The third would be the learning stations and definitely the fourth one, which we've tried a few times and I told you what our complication was, would be the parallel teaching. (Female, General Education)

I think that you really need to mix models depending on what the activity is or what you're trying to get the students to learn or what they're having difficulty with. (Female, General Education)

The interviews also revealed that the choice of co-teaching models is often constrained by factors such as levels of subject knowledge and the ability of co-teaching partners to work as a team, which generally only develops over time. One of the special education teachers explained that, in their experience, different models of co-teaching are used as co-teaching partners get more used to working together and the non-subject specialist gains more knowledge of the content area. Typically, in the view of this participant, this evolution moves along a continuum from one teach, one observe, through one teach, one assist to station teaching, to parallel or team teaching.

In the interviews, the research participants were asked to explain why they preferred a particular model or models of co-working. In doing so, many highlighted examples of specific ways in which the models had been used successfully in their

classroom. The key findings relating to each model are discussed in the following sections.

### **One Teach, One Assist**

The interview data suggested that, as reported by previous researchers in different research settings, the teachers in this study frequently used one teach, one assist. In contrast with the findings of previous studies, however, current participants were just as likely ( $n = 6$ ) to select it as their preferred co-teaching model as they were to select team teaching ( $n = 6$ ). In the interviews, 11 participants in total reported using this model, including 9 out of 10 general education teachers and two of the five special education teachers.

The examples provided show that the use of this model generally involved the general education teacher presenting the lessons, while the other co-teaching partner, often a special education teacher, would take a supportive role. This role might include, for example, providing support to individual students, generally monitoring the class, or interjecting to seek clarification of points for the benefit of students.

I present the lesson and there is another teacher assisting. So basically you know my co-teacher goes around making sure that kids stay on the task, that they are not on their cell phones ... they don't have ear buds in their ears and they're copying notes, they all have notebooks, something to write with and all that stuff. (Female, General Education)

A number of participants also reported that they sometimes alternate roles with their co-teacher within the one teach, one assist model. This can be seen as a good practice example of the model, in which both teachers are actively involved in teaching

the class even though the teaching is not shared equally because of the greater subject knowledge of one of the teachers.

When my co-teacher's up there doing homework review, that's really the teaching method [my co-teacher's] reinforcing through the homework, and I'm assisting by making sure the slower, more needy students are getting the information, they're not on a cellphone, they're actually taking the notes down. (Female, General Education)

Overall, the interviews revealed three main reasons that the teachers in this study preferred the one teach, one assist model. First, it allows for differences in content knowledge. Second, it facilitates improved classroom management and learning progress. Third, it helps clarify teacher roles and responsibilities with minimal planning time required.

**Differences in subject knowledge.** The data indicates that the one teach, one assist model was often used by default when the teachers had different levels of content knowledge, and it was felt to be important to have the teacher with the most expertise lead the lessons. Six of the teachers using the one teach, one assist model cited this reason for doing so. For example, one general education teacher said:

It works best for me because my training and my expertise is in English, in the subject area ... I know it's a strength and it's that important to me to relay to the kids success in that area ... If one has the general education knowledge then hopefully the other one has the special education knowledge and knows how to adapt the activity and adapt the skills so that the students can actually partake in them and benefit from them. (Female, General Education)

Participants identified secondary advantages of the model in this context. For example, the assisting teacher with less content knowledge was often able to identify

where additional explanation of topics or concepts was needed, or could use their special education expertise to assist students with special needs to follow the lesson.

Sometimes not really understanding the subject itself, it gives you a better opportunity to understand what the kids don't know. Sometimes I just don't know. Why don't they get this? What's wrong? As it's so simple. It's like what am I doing wrong? It's nice when another person can say, here's where I see the problem is and let me help these kids, and it's worked. (Female, General Education)

**Improved classroom control and learning progress.** Nine of the participants using the one teach, one assist model indicated that it is an effective and efficient approach to co-teaching in inclusive classrooms. According to these research participants, this is because it enables the lead teacher to focus on ensuring the class as a whole makes progress while the assisting teacher minimizes disruption by addressing the needs or questions of individual students, maintaining discipline, or dealing with interruptions such as requests for bathroom breaks.

When we have questions, it's usually one person confused at that time and having to stop the entire class for that one question to be answered. Sometimes ... it's easier to do with that one teach, one assist where the teacher keeps going, and the assisting teacher just takes that little question on the side. And it's answered really quickly and right back to the lesson. (Female, General Education)

It allows me to move forward and reach whatever goal it is I have set for that time period, but still get students the help that they need because someone else is kind of dealing with the further explanation if necessary. So this model works because it kind of keeps us on track curriculum-wise. (Female, General Education)

**Clarity of roles and responsibilities.** Four of the participants expressed positive views about the one teach, one assist model because of the way in which it makes the

roles and responsibilities of the respective co-teachers clear, not only from the perspective of students, but also from that of the teachers themselves. One participant noted that the one teach, one assist model requires little joint planning to determine these roles and responsibilities. This is a considerable advantage, they observed, when common planning time is not available.

I love the one teach, one assist method because they know which teacher to focus on and they know which teacher is giving the information out. And doing that, that one teacher, if it's me, can focus on the academics and getting the academics to the students and the other – they call it one assist – but that teacher controlling tone, you know, to make sure students aren't distracted, on phones, eating, talking to each other, texting each other, really helps, and making sure that they actually take the notes and get it down in their notebook. It works the best for us and I think we both feel that way. (Female, General Education)

If a teacher does [the] planning, and the other teacher comes in to assist, it seems to work out better that way because teachers usually are used to doing planning on their own. Unless you can actually sit down for a couple of hours a week to plan with that teacher, I think you're going to have to do the assist model, unless you can sit down to plan out parallel teaching or team teaching. You need a lot of planning time for those, and I think there is no built-in planning time. (Female, Special Education)

### **Team Teaching**

The majority of the teachers in this study also used team teaching on occasion: 10 of the participants overall, including six of the general education teachers and four out of five of the special education teachers. The reported use of team teaching by most of the special education teachers is an especially interesting finding because it indicates that in this secondary vocational and technical school, special education teachers play more than a supportive, assistive role in co-teaching.

The in-depth results indicated, however, that team teaching was used infrequently, though it was the model many of the teachers had learned about initially, and which they aspired to use more extensively in the future. Several participants acknowledged that this is the ideal form of co-teaching, but is often very difficult to achieve, or can only evolve over time in a long-term co-teaching partnership.

I also saw one model that looked like they were both actors where they had such a rhythm together that one teacher stopped talking and the second the teacher stopped talking, the other teacher joined in and started talking, like picked up the lesson immediately. It seemed like they had a script prepared and maybe that happens over time, which would be great. I would love to be able to get to that point with a co-teacher where we can just finish each other's sentences. (Male, Special Education)

It takes time and effort to get there. Like a brand new pairing of people aren't gonna be able to do team teaching. It's something that comes with years together and experience and a good relationship and things like that. So it's unique. I think sometimes it's not that easy to achieve. (Female, General Education)

Three of the general education teachers described how they used team teaching effectively with their partner, working collectively during instructional activities or sharing the responsibilities for student assessment. At times, team teaching was implemented by these participants as an almost hybrid co-teaching model, which incorporated mixed elements of other co-teaching models. The primary factors facilitating this sharing of roles appeared to be compatible personalities, having different but complementary subject knowledge, or having different instructional approaches to teaching the curriculum.

The current teacher who's also a subject matter expert in the topic ... a lot of neat items of putting questions around the walls with Velcro or something like that and having the students go to each station where there were questions and doing the work and then moving to the next group. Then I'd come up with some ideas. It's been very helpful to be able to do that with the team teaching where we both knew the topic. It lends itself to just the more learning, more ability to come – Like one day one person could have the stations around the room to do the different questions and then when it's all finished kids could compete against each other and have teams. It's just easier to do with two teachers. (Female, General Education)

[My co-teacher will] take that topic and it might be on linear equations or modeling systems of linear equations finding the common solution so, [my co-teacher] would work with that. It's just nice. That would give me an opportunity to watch ..., sit back, and be prepared for the next increment as we go along. To see different points of graphing and to check out and see what one teacher saw that they had laying out and the same way for [my co-teacher] to see other ways to teach the topic. It just goes hand in hand. (Female, General Education)

I think it works better if we're either both teaching to everybody, and we kind of go back and forth and chime in and do things like that. With that teacher, [the person] also taught, that year, [another subject]. So there was section of the book that talked, actually, about a little bit of [that subject], so I had [my co-teacher] teach those lessons and come up with the PowerPoint. [My co-teacher] did direct instruction, and I walked around and monitored what the kids were doing. So we kind of switched it up a little bit. (Female, General Education)

The perceived benefits of this model of co-teaching, as reported by one of the special education participants using this model, include enabling the second co-teacher to have a role that is complementary to that of the first co-teacher, and helping to ensure that the students take them both seriously as teachers. This also has advantages for general education teachers, including improved classroom control, as explained by one teacher in this category:

It helped, I think, a lot for classroom management because, when the kids see the special ed. teacher as the helper teacher, they don't respect them. With the team teaching and the kids knowing that [the co-teacher is] a teacher too, it's completely okay to step out of the room and know that class is still going on. Or when I'm absent – something like that – class is still running 100% as if I was here – either one of us. (Female, General Education)

Other reported benefits of team teaching included allowing students to benefit fully from the different teaching styles or unique skillsets of the teachers, including ensuring that special needs learners are taught and evaluated in appropriate ways.

I don't want the mainstream teachers to grade everything and now I don't know who needs help, who needs to maybe retake it and who I got to focus on. (Male, Special Education)

It always comes back to team teaching because we both have different views and we both want to pull that out and show the kids different views and hear what their different views are, so it's kind of hard to take a seat, sit in the back and watch. So we're more team teaching ... We get into a groove and we feed off each other which helps things – we both know in the direction we're going. (Male, Special Education)

### **Station Teaching**

One of the more unexpected results of the study, which contrasted with the findings of previous researchers, is that station teaching was a model used at times by most of the research participants. However, it was not used as a sole teaching model but rather in combination with other models used routinely in the classroom and not as the dominant day-to-day co-teaching model.

Typically, the interview data indicated, the use of station teaching involved dividing the class into small groups to work on different activities, with the students and

teachings rotating between the stations. When they used this model, the co-teachers generally moved between the groups, or, alternatively, one stayed with a group of students needing more assistance, while the other assisted the remaining groups in turn. The following quotes illustrate different co-teacher roles and teaching methods when using station teaching, which include both teachers circulating and monitoring groups involved in different activities or, alternatively, one teacher circulating and the other working with those groups requiring extra attention.

Sometimes we'll do station teaching where we'll have different stations set up around the room or different activities given in folders and students will work on such an activity for a while and then will switch to a different station, different group. And we'll walk around and work with the different groups, the different stations, making sure they're doing okay, they're staying on task, they're getting the picture, everyone's working, not just one or two of them. ... The kids are in groups either of two, three, or four students depending on the activity and usually separate from one another. (Male, Special Education)

We do a lot of station work where I'll walk around, visit all stations. [My co-teacher will] work with one set of kids that need the – that one-on-one help ... or it'll be reversed. I'll sit with the kids who are struggling, and [my co-teacher will] walk around and make sure that all the other groups are doing what they're supposed to do at the station. (Female, General Education)

I think we set up three stations. We broke the kids in groups and we moved them around the class every 10 or 15 minutes to each one, and that seemed to work very well, keep the kids moving. One station was vocabulary, another station was a hands-on that they actually had to do some type of project, and the third was answering some questions so we broke up all different types of assessments ... Basically the way that works is I might be at one station, [My co-teacher]'s at another station and then we float in between the stations to keep the kids on task but we're never together. (Male, Special Education)

One of the main perceived benefits of station teaching, inferred from the range of comments made by participants using this model, was the ability to offer differentiated learning to separate groups of students. It was clear from the interview responses relating to this model that the size and composition of groups were often determined in ways expected to facilitate learning by individuals, and teachers would devote more or less time to particular groups depending on their relative need for support. One of the special education teachers highlighted the added benefit that, by working together in groups, which often include lower and higher ability learners, students learn from one another and also develop valuable additional skills such as teamwork:

The kids, they're not only learning the [subject] but they're learning how to get along with each other, they're learning teamwork, helping one another out. I mean, those are all very good qualities that they should be learning in education, too, not just [the subject], but how to work with one another and that's important. (Male, Special Education)

One of the two teachers who were not using station teaching indicated that station teaching required a large amount of planning time, which was not available to that participant. The other expressed the view that more than two teachers are needed to manage this model of co-teaching. These comments suggest that, under favorable circumstances, these teachers might also use station teaching.

To collaborate with another person on something like that, takes hours and hours of planning together, which is not given to us. It's not built into any school system, as far as I know. And it would mean just staying after school for hours and hours every day. And that's not possible all the time. (Female, Special Education)

I don't think station teaching works without the use of a few different teachers in the classroom. Obviously in terms of budgets that is not going to be feasible to hire. (Male, Special Education)

### **Parallel Teaching**

Although only two of the research participants indicated an overall preference for parallel teaching in the post-interview survey, the in-depth interviews revealed that seven of the participants at least sometimes used this model, including four general education teachers and three of the five special education teachers. Parallel teaching generally involves the two co-teachers simultaneously teaching to the two halves of a divided class. A general education teacher described what this involved in practice:

A couple times, we would split the class in half – physically, we would take the desks and turn them. One would face the projector board, and one would face the other board. We'd teach on opposite sides of the room. We'd do activities like that. (Female, General Education)

The teachers who had used parallel teaching noted that it was particularly effective for differentiated teaching between learners of differing abilities, especially when teaching complex concepts or topics. One of the special education teachers reported using parallel teaching on an ongoing basis for a period, in order to help students understand a difficult topic by teaching them in smaller groups.

For about a month or so, we'd split the class pretty much evenly and again, both mainstream and special ed. kids, and we each had a little group and instead of having one big group and going over [a subject], we had smaller groups. We'll do that if we're doing a hard topic in [subject] ... We decided we were going to isolate one specific skill, let's say students were having difficulty with one particular concept. ... We would see who was getting the concept, and then, we would see who was not getting the concept. And, based on that, we'd break up, and we'd parallel

teach. We'd break the classroom into two, based on whether you're able to do the skill or not, and if you couldn't do the skill, well, "Here is the remediation." If you could do the skill, "Here is the lesson." So, we had the remediation; then, we had the lesson. And it was for all students. It wasn't just for special ed. (Male, Special Education)

Another of the reported reasons that parallel teaching was effective in improving student learning was that students became more confident in small groups. Those who were struggling were more inclined to ask for help in this setting than in a large group of students.

It worked out great because again, some of the kids who would normally not raise their hands or feel intimidated sometimes to speak, were able to speak because now they're in a smaller group and it worked out well. And I think the test scores definitely go up when you do that and the kids learn a lot better ... (Male, Special Education)

We tend to get more students to be responsible and answer questions when there's only 10 in a room versus 20 ... When you split them into two separate groups and you know the people they get along with are with them, then they feel more comfortable to volunteer. (Female, General Education)

One teacher mentioned that parallel teaching allows for better classroom control owing to the improved teacher-student ratio, and reported using it with his co-teacher for this purpose.

The parallel teaching, we've done that too if we have a big group or we have a difficult group with students that really don't interact well with each other. We'll break the groups up and then we will parallel teach, which basically is we're both doing the same thing but to a smaller group, and we isolate the one group to the side and the other group's off to the other side, so that there's not too much interaction. That works well when you have a tough group of students, students that might not be paying attention; too many of their friends are in a classroom so we hold on to that for those situations. (Male, Special Education)

Although almost half of the research participants had used parallel teaching on occasion and reported the benefits discussed above, others expressed negative views on this model of co-teaching or felt that it was too difficult to implement. Four participants indicated that they find it too distracting to have another lesson being simultaneously taught in their classroom and did not use it for this reason.

Parallel teaching does not work for us in this classroom. It is too small. And even the teachers get disrupted by each other. We tend to drift off or not be able to focus because we're watching the other group to see what they're doing and hearing many voices in the room distracts me quite a bit.  
(Female, General Education)

The types of perceived difficulties involved in using parallel teaching included the perception that this model requires both co-teachers to be equally experienced in the subject being taught, which is rarely the case (one participant) and that it requires a lot of common planning time, which is generally not available (one participant).

### **Alternative Teaching**

None of the research participants indicated in the post-interview survey that alternative teaching was their preferred co-teaching model. However, the interviews revealed that more than half ( $n = 8$ ) had at times used this model. This included more than half ( $n = 6$ ) of the general education teachers and two of the five special education teachers. The model involves one teacher leading the majority of the class while the other takes responsibility for a small group who require extra support.

The perceived benefit of alternative teaching among those participants who reported using it is the ability to differentiate instruction to the needs of select students without hindering the progress of the larger group. This might involve one of the co-

teachers taking the smaller group to a different room or library to work, or simply working on a different activity within the same classroom, supervised by one of the teachers.

I think the alternative teaching works well because we can split the class or just pull kids who need more differentiation or additional time or additional help. And, fortunately, we have a room that I can pull the kids out and go to a room with, or [my co-teacher] has done that, where [my co-teacher will] take some kids out and go to the library, the back of the library. So that works well also. (Female, Special Education)

I find that works sometimes as well if you have a small group of students that needs intensive training in something while the rest of the class moves on ... If there is a skill that some kids are falling behind on and they need a little extra practice, I can give the co-teacher a small group of students and say “please work on this” and give them materials to work on. (Female, General Education)

### **Examples of Successful Co-Teaching Activities**

In the interviews, the research participants were asked to describe a time when they created an instructional activity with a co-teacher that resulted in high levels of student achievement. Of the 15 participants, 14 were able to cite an example of this type, and the information provided is useful in highlighting good practice examples of co-teaching.

The examples given illustrate that co-teaching can be effective in producing positive student outcomes in a range of subject areas or activities. They also provide evidence of the effectiveness in practice of several different models of co-teaching, specifically team teaching, parallel teaching, and station teaching. Table 4 shows the distribution of examples of effective co-teaching by subject/activity type and by co-

teaching model, as identified or inferred from the participant interviews.

Table 4

*Distribution of Effective Examples of Co-Teaching by Subject and Model*

Subject/activity	Co-teaching model					
	One teach, one assist	Team teaching	Parallel teaching	Station teaching	Alternative teaching	Unclear/ various
English		3				
History				2		
Math		1	2		1	2
Science		1			1	
Not Clear			1			

The following examples illustrate the diverse range of ways in which this sample of teachers has used co-teaching and obtained positive student outcomes. One of the English teachers described using co-teaching when studying a particular text, and conducting a follow-up assignment in which their students had performed well.

We had read a book called *The Contender*. And, at the end, when they finished *The Contender*, we asked them, “If you were a contender, what would you want to achieve, you know, if you were trying to achieve something?” And we asked them to write, like, an essay on that. And I think some of the kids really thought about, again, what they would try to achieve, maybe in sports or their goal to have a profession ... And we gave them time to think about it, and then we circulated around the room to try to get them motivated, some of the kids who didn’t have any – who didn’t want to write much. And I think, in the end, it all worked out really well because a lot of the kids actually put down that they might want to be a contender, to try to achieve their goals in doing certain things in life ... I think they understood what it was like for the main character of the book to try to be a contender. (Female, Special Education)

According to the participant, co-teaching played an important role in securing positive student outcomes because it would have been impossible for a single teacher alone to provide all the students the attention they needed to understand and successfully complete the assignment:

I think it enhanced it because you had two people motivating these kids to say, like, “You know, if you really want something in life, and you really work hard for it, whatever it’s gonna be, you know, you try. You try to do it, if you want to excel in sports, if you want to become an auto mechanic, whatever you want to do.” We were circulating. It’s a big class ... To have two teachers go around and help each – help the kids, so that you can get to every single kid, I think it’s really important. (Female, Special Education)

A number of effective examples of co-teaching mentioned by the research participants used the model of parallel teaching, within different subject areas, to differentiate instruction between lower and higher level learners within the classroom.

What it was really good at was getting at the kids that were able to get to a little bit of the higher level – like differentiating stuff. [My co-teacher] would generally take the ones that were a little lower. I would take the ones that were higher. It was not whatsoever special ed./regular ed. It was just genuinely the kids that were lower and the kids that were higher *on that topic*. We could do, like, two activities going on in the same room at the same time. That was pretty cool, because some would be doing – they were doing different – the same topic, but at different levels, so the different types of problems. I might be giving ones that have a little bit more challenge. The other half of the room is just working on the basics a little bit. But it was cool that it was happening in the same room at the same time. (Female, General Education)

We did the parallel teaching and we gave extra work to the stronger students and [Teacher Name] was working with the students that needed extra practice. And they were actually very good so [my co-teacher] chose the whiteboard and ... called them one by one to the whiteboard to solve whatever problem that needed to be solved. And that was very good

and they were really quiet, very attentive, very focused. And then the next day we gave them a quiz, and students who usually fail the quiz the first time, they actually passed it so that, the work and whatever they practice stayed with them at least one day, which was good. (Female, General Education)

Participants attributed the success of parallel teaching in these situations to two factors. First, it enabled the teachers to maintain better control of the class and minimize disruptive or off task behavior. Second, it ensured that students could obtain the level of teaching and support that they needed to complete the lesson's objectives, without hindering progress of the more advanced learners. Successful examples of alternative teaching included a situation in which one teacher provided remedial assistance to a group of students who needed extra support, while the other moved forward with the more advanced students.

There was a time where we built solar cars, which was an awesome project that was pretty much across the board loved by every student. And that worked very well because we had, obviously, students that worked at different paces ... Because I had this person with me, we were able to say "okay, if these guys are moving on, then I'll take them to the next step. And if these guys are struggling behind, would you stay with them until they get to the next step?" (Female, General Education)

We broke the class down into two. The one side who got it went on to the more advanced lesson. The other side that didn't necessarily get it, they were with me, and we were basically breaking down what you look for. Not actually what you do but what you look for, because once we understood what we were looking for, then the basic operation of either adding, dividing – I'm sorry, either adding, subtracting, or multiplying – it was just a matter of identification ... So that was one instance of a lesson where student achievement we – I would say we were at least 95% if not 100% ... If you understood how to do the three operations we were asking you to do with the exponents, then you just moved right to where [my co-teacher] was. And the lesson got a little bit more complex and advanced ... and we did other lessons where we'd be reversed. [My co-teacher]

would do the more remedial portion of it, and I would do the more advanced. So in that particular lesson – I mean, we just worked right together. (Male, Special Education)

A good practice example of team teaching resulting in high levels of student achievement and engagement came from the science area. In this example, the speaker's co-teacher was able to use her subject expertise to enhance lessons on a particular topic, as well as provide seamless coverage for the class during the speaker's extended absence.

We did some genetics projects. Seeing that [my co-teacher is] a math teacher, [my co-teacher] was really able to help us go through all of the genetics activities that we do – we would make a human face and flip a coin – so [my co-teacher] could help them with probability and things like that ... The kids really seemed to understand it ... I went out on maternity leave that year. [My co-teacher] had started the genetics section. I came back and finished it with them. The following year – because the kids didn't really know what kind of baby I had, I guess, when I came back – they were asking me all kinds of – “Did you do a Punnett square to figure out whether you were gonna have a boy or girl?” “Did you do a Punnett square to see what color eyes it was gonna have?” So they really kind of internalized what we were learning. (Female, General Education)

Several of the examples given by the research participants illustrated the use of station teaching for effective differentiated learning, in the contrasting subject areas of math and history. Typically, students would rotate between activities or be required to complete a task at one station before progressing to a higher level task or activity at another. Often used for interactive lessons, this approach was seen as helping to improve student engagement with and enjoyment of the planned learning activities, thereby contributing to outcomes that are more positive.

The more that we did our stations between each other, the fact that we made them; each station, they had to produce some kind of activity or

assessment ... The kids ... when they walked out of class, they complimented him and I at the same time and said that had to be one of our best lessons that we ever had ... Because they got the point and then it was interactive at the same time. (Female, General Education)

Two of the cited examples resulting in high levels of student achievement highlighted the important role of co-teaching in planning as well delivering lessons.

Just recently, I was working with the co-teacher on the high school proficiency assessment tasks. Just sitting down together making up all of our problem sets to give to the students so that they could be successful, like something on number sense, something on probability, statistics, algebra, geometry, and just focusing on the needs of the students to create problems. I think it was so helpful not to be doing it alone, to be able to work with someone else and for someone else to say, "This person, I don't think they're going to get it this way. We better do something else." Then to see the results: we did a really good job. We started off with I think 32 students that weren't ready to graduate from high school and we're down to two. (Female, General Education)

The way it worked, both of us came up with nine unique projects to put into the perfect 10 grid. We came together and merged them. So for example, for two points, a project idea would be having the students write about their favorite paragraph, then they can write about the theme from the story, then they can write a review of the book, and that is all two points. Three points would be illustrate a scene, illustrate a character from the book, or illustrate a movie poster for the book. Then for five points, this is where we had some fun with technology, this is where we saw co-teaching boom. We had some students film a three-to-five minute YouTube trailer, do a one-to-three minute monologue where you can recite a part of the play. The last part was to – it was a similar Facebook project where you can make a Facebook or Twitter page. This is a time where we worked together and saw amazing achievement; the students did great. (Male, Special Education)

In relation to the second example quoted above, the teacher remarked that it would be impossible to do this type of project without a co-teacher, since 20 students could not be supervised adequately in the library while working on different activities.

## **Teacher-Related Benefits and Challenges of Co-Teaching**

### **Teacher Benefits**

The research participants were not asked directly in the interviews about the perceived benefits of co-teaching for them specifically, or about the challenges or difficulties they had faced and how they overcame them. However, their responses to other questions revealed useful insights into these teacher-related benefits and challenges, many of which have been incorporated into preceding sections of the results chapter. In this final section, additional key findings are brought together regarding the benefits to teachers of co-teaching as well as the challenges faced and, if relevant, how these were overcome. Below is a summary of important aspects of the research participants' experiences and views of co-teaching, the goal of which is to ensure that all the important research material has been incorporated into these results.

Previous research has shown several important teacher-related benefits of co-teaching. These include feelings of personal satisfaction arising from improved student performance, acquisition of new skills and knowledge from co-teaching partners, a positive sense of support from co-teaching partners, and an overall increase in teamwork and collaboration among teaching staff at their school following implementation of a co-teaching program (Frisk, 2004; Scruggs et al., 2007; Walther-Thomas, 1997). One of the objectives of examining the teacher-related benefits of co-teaching as expressed by the participants in this study was to explore whether their views included the types of benefits identified by previous researchers and whether any additional benefits could be identified.

When discussing their views and opinions on co-teaching, the general education and special education teachers in the current study often referred to student-related rather than teacher-related benefits, such as the ability for students in general, or special needs students in particular, to receive more attention from teachers and to be exposed to different teaching styles or perspectives. Ten of the participants in total cited student-related benefits of these types. Only eight of the 15 participants, including five general education teachers and three special education teachers, directly identified teacher-related benefits of co-teaching. Notably, participants indirectly discussed many teacher-related benefits of co-teaching at different points in the interviews, and the reader should not infer that the remaining participants did not perceive that co-teaching offers teacher-related benefits.

All of the eight participants who directly cited teacher-related benefits of co-teaching highlighted how the presence of a co-teaching partner improves classroom management. One cited the additional benefits of being able to devote more attention to students; two mentioned learning about new teaching styles and ideas and having someone with whom to collaborate and plan engaging lessons.

Having a co-teacher in the classroom, it was noted, enables teachers to stay more aware of and focused on the entire classroom, which ensures that all students stay engaged in the lesson's activities.

The more teachers you have in the classroom, obviously the better it will be. You will definitely have more people who can watch the students, keep track of them, make sure no one is on their phones or talking in the class or in the back or something else. (Male, Special Education)

With a bigger class, you can see more of what's going on the room. All right, one person's at the board, another person could be watching or helping out. There's just more of an opportunity to teach and to get the kids learning, get them engaged and keep them involved. (Male, Special Education)

Reflecting the findings of other researchers, two of the participants in this study also specifically mentioned the benefits of being exposed to new and different teaching styles and ideas. This exposure enabled them to learn from their co-teaching partner and even transfer the observed good practice into their own, individually led classrooms.

It's good because you as a teacher get to see how another teacher teaches a certain subject ... and you can get ideas from that and ideas from them and you can bounce them off one another. I mean something that you would never think about, the other teacher might do or vice versa and you can get really good ideas and you can try them in your own classroom and that's great. (Male, Special Education)

I also get stronger by working with a mainstream teacher and seeing what they're doing and seeing their strengths, and I try to incorporate that, not only into the co-teaching class, but in my own resource room classes. I think it betters me all around as a teacher. (Male, Special Education)

As a new teacher I needed all the experience I could get ... it was a huge asset to have someone else in the class that I can learn from. (Male, Special Education)

Two of the participants, including this special education teacher, highlighted the advantages of being able to share and discuss ideas with their co-teaching partners:

When you have someone else that you could talk about and bounce ideas off to and critique the lesson, it just makes it so much better that you can improve for the next time and just keep getting better and improving ... We're constantly talking to each other ... "How did the lesson go, how did these groups do? Do they need another day on this topic or can we move on to the next?" (Male, Special Education)

In contrast with the findings of previous studies, these perceived teacher benefits were overall more closely related to the classroom environment and student needs, perhaps reflecting the characteristics of this vocational and technical education environment and the types of concerns and needs of classroom educators in this setting. The emphasis on classroom management was a consistent theme throughout many of the interviews, a point that will be discussed further in the final chapter.

### **Teacher Challenges**

In the interviews, the research participants also highlighted various challenges in implementing and using co-teaching, many of which were discussed in earlier sections of the chapter when considering implementations of these results. The nature and reasons for these challenges and the ways in which they might be overcome will be examined in the final chapter. In summary, the leading types of challenges that the research participants reported experiencing included:

- problems of working with incompatible co-teaching partners or those who were not supportive of co-teaching,
- difficulties of planning and implementing co-teaching arrangements in the absence of common planning time,
- difficulties arising from lack of continuity of co-teaching partnerships, and
- insufficient content knowledge on the part of a co-teacher.

These are generally in line with the types of challenges and difficulties in co-teaching reported by previous researchers (e.g., Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007) and indicate that co-teachers in a range of educational environments may

experience the same types of challenges and difficulties. This means it could be possible to develop widely applicable best practice strategies and approaches for overcoming such challenges, an issue that will be discussed further in the following chapter.

### **Summary**

This chapter has described the characteristics of the research participants and set out the findings of this mainly qualitative study of co-teaching within a secondary vocational education setting. Data from the in-depth interviews with general education and special education teachers have been synthesized throughout the chapter with descriptive results from a short post-interview survey.

The majority of participants reported holding positive opinions about co-teaching, though these were qualified by stressing that it offers benefits only if both teachers hold the right attitudes and personalities, and if appropriate models of co-teaching are used.

One of the overall findings of the study is the discovery that many of these educators are using a variety of co-teaching models, selecting the most appropriate for different types of lessons, activities, and student needs. In this context, it appears that special education teachers may be playing a more central role in co-teaching than previous studies have suggested.

The participants identified a number of factors they perceived were associated with successful co-teaching. They also described the types of challenges that arise when these are not in place. In the final chapter, the relevance of these findings to the research questions are discussed, and their implications for the development of best practices in co-teaching are examined.

## Chapter 5

### Summary, Conclusions, and Recommendations

Co-teaching has increased in popularity as a strategy for including learners with special needs within mainstream classes, largely in response to the Individuals with Disabilities Education Acts (IDEA) of 1997 and 2004 and the No Child Left Behind Act (NCLB) of 2001. These laws were enacted, in part, to provide for the least restrictive environment for students with special needs (OSEP, 2012). Co-teaching involves a general education teacher and a special education teacher working together to lead a classroom that contains both mainstream and special education students (Solis et al., 2012). Several commonly accepted models of co-teaching exist, along with a body of literature supporting the benefit of co-teaching for students (Friend & Cook, 2012; Walther-Thomas, 1997). In addition, qualitative research has identified a number of best practices and challenges in co-teaching (Scruggs et al., 2007). Critical success factors identified in previous qualitative research include strong teacher relationships, co-planning time, administrative support, and clear role assignment (Dieker & Murawski, 2003; Scruggs et al., 2007; Wilson, 2008). This study explored these co-teaching constructs as they are perceived by co-teachers in a vocational and technical school setting.

Previous research alludes to a variety of factors of which affect the success of co-teaching endeavors. In particular, time constraints and a lack of interest in co-teaching among some teachers are mentioned as obstacles (Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007). Although existing literature supports the need to adopt strategies to

improve co-teaching, no particular strategy has yet gained widespread support. With regard to best practices, there is little agreement among researchers as to which co-teaching instructional model is the most effective. Substantial gaps also remain in knowledge about co-teaching practices, especially in the secondary vocational education setting and from the perspective of the co-teachers themselves. Since the literature indicates that co-teaching offers significant potential benefits for students, there is a need to address these information gaps in order to improve understanding of best practices in co-teaching and encourage their implementation in a wider range of educational settings. This study has helped identify useful co-teaching best practices as they were used in a vocational and technical environment.

The current study was conducted to address the need for information on effective practices in co-teaching from the perspective of co-teachers working in a vocational and technical secondary education environment. My research primarily employed one-on-one interviews with practicing and recently practicing co-teachers at two campuses and four schools in a county New Jersey vocational and technical school district. The interview questions were open-ended, allowing the participants to express their views and perspectives openly. I also used a five-question post-interview survey questionnaire for each participant in the study.

Fifteen teachers with experience of co-teaching in inclusive classrooms took part in the study (10 general education, 5 special education). The participants represented a broad range of subject areas, and their experiences were diverse. The reported length of time spent co-teaching ranged from just over a year to more than 10 years; none of the

participants had been co-teaching for less than a year. In total, the study was able to draw on the participants' collective experience of 52 separate co-teaching partnerships over time.

I investigated how these educators perceived and defined their most successful co-teaching relationships, with the objective of identifying best practices suitable in similar educational settings. The research was conducted using a social constructionist theoretical framework in order to explore how the research participants understand and interpret their own experiences of co-teaching. The detailed research results were presented in Chapter 4. In this chapter, I identify and interpret the findings of the study as they relate to each of the specific research questions set out in Chapter 1, noting particularly useful findings and the ways in which they may conflict with or build on the existing literature on co-teaching. I also highlight other important findings and their implications, and use the research results to develop recommendations for co-teaching practice, as well as call for further research into co-teaching in similar educational environments.

### **Discussion**

Overall, the research findings provide strong evidence that, from the research participants' perspectives, co-teaching is used effectively in this vocational and technical secondary education setting. The participants reported utilizing co-teaching skills in a diverse range of different classroom activities. The many benefits that participants cited support a case for wider and continued implementation of their co-teaching strategies in vocational secondary education. It is notable that the majority of participants reported

having been skeptical or opposed to the use of co-teaching initially; however, their views had become more positive over time as a result of using co-teaching and observing or experiencing its benefits. The generally positive perceptions of co-teaching among the current participants supports the findings of previous studies (e.g., Scruggs et al., 2007), which also found that most co-teachers have a favorable opinion of co-teaching. The current findings indicate that the potential benefits of co-teaching apply to the vocational and technical secondary education environment. Though their overall experiences and views on co-teaching were positive, most of the teachers also reported some negative experiences of co-teaching over time. Their accounts indicated that these were caused primarily by incompatibility with a particular co-teaching partner or problems with the way co-teaching was implemented, rather than because of any problems with the practice of co-teaching per se.

### **Research Question 1**

The first research question asked, how do co-teachers perceive their most successful working relationships? Previous studies highlighted that a good a relationship between co-teachers is one of the most important factors contributing to successful co-teaching (e.g., Scruggs et al., 2007). However, few researchers have investigated co-teachers' perceptions of what constitutes a good co-teaching working relationship. In this study, I explored co-teachers' perceptions by asking the participants to think about their "best" co-teaching partner and to describe the working relationship with this partner.

The participants perceived their best co-teaching relationships to be ones in which they were highly compatible with and worked well with the co-teaching partner. To

achieve this, it was seen as especially important that their partner possess the types of personal attributes that the participants saw as important in co-teaching, such as a positive attitude toward students, flexibility and adaptability to changing between teaching roles, good communication skills, and being a good team player. The most successful relationships were also perceived as those in which students experienced positive academic progress and an enhanced learning environment.

Participants often attributed the success of these relationships to the co-teachers having complementary roles. Many of the participants indicated that their most successful working relationships were based on the one teach, one assist model, with one teacher leading the lessons while the other circulated in the classroom, providing help to individual students or maintaining discipline. However, these roles were not necessarily fixed; several participants reported that they alternated roles with their co-teacher within this model. Other participants indicated that their most successful co-teaching relationship utilized a team teaching model, but again they emphasized in these cases the personal compatibility of the co-teaching partners in contributing to the success of the relationship, rather than the use of the model per se. In this respect, the findings of the study support the argument made by Magiera et al. (2005) that complementary skills can create a more robust educational environment. On the other hand, current findings conflict somewhat with the argument put forward by Dieker and Murawski (2003) that sharing skills and collaborating as equals is a more effective approach.

Although limited literature exists demonstrating the benefits of co-teaching, some researchers have documented the perceived benefits of co-teaching to the teachers

involved. These benefits included feelings of professional satisfaction related to student achievement, professional growth, personal support from their co-teachers, and an overall increase in teamwork and collaboration (Walther-Thomas, 1997). In the current study, the main perceived benefit was the personal satisfaction participants derived from positive student outcomes and an improved learning environment. The benefits of improved discipline by virtue of having two teachers in the classroom was mentioned on a number of occasions in the interviews, though it has not been cited commonly in previous literature. Improved classroom management may, then, be a factor with particular relevance to the vocational and technical education setting. Some participants indicated that they had benefitted personally from co-teaching through exposure to different teaching methods or styles and through the support of their co-teacher in planning and reviewing the success of lessons. However, the majority of the participants did not emphasize these.

## **Research Question 2**

The second research question asked, how do co-teachers define a successful working relationship? In addition to exploring co-teachers' general perceptions of their most successful working relationship, the interviews and survey data were used to identify how the co-teachers in the study defined a successful working relationship. In analyzing the research material relevant to this question, my focus was on identifying critical co-teaching success factors that characterize an effective and successful working relationship. From these success factors, recommendations for co-teaching best practices

can be developed. A number of factors defining a successful co-teaching working relationship were identified through analysis of responses .

Above all, two factors emerged from the interviews as being most important to contributing to successful co-teaching: the personal attributes and compatibility of co-teachers and common planning time. These were interrelated; in the absence of common planning time, personal skills, attributes, and compatibility made it easier to achieve effective co-teaching. From this it might be inferred that, based on the qualitative findings of this study, teacher attributes are relatively more important than administrative factors in contributing to successful co-teaching. As in previous research (Scruggs et al., 2007), some of the participants in this study compared co-teaching to a marriage, meaning that personal compatibility is crucial to its success.

In general, when discussing the factors contributing to a successful co-teaching working relationship, the teachers also placed more emphasis on personal attributes and abilities than on subject knowledge. Many of the participants also viewed the latter as important, but identified subject matter knowledge primarily as a personal strength of particular individuals, whereas they stressed the importance of personal attributes when discussing their preferred co-teaching partner.

The types of personal skills and attributes seen as especially desirable in a co-teaching partner included having a positive attitude toward co-teaching, being highly focused on the needs of students, being flexible and adaptable, and being a good team player. These attributes are regarded as especially important in co-teaching, as it is often necessary to adapt very quickly to the personality and teaching style of another person. A

number of participants also emphasized the need for good organizational skills.

Interestingly, general education teachers and special education teachers expressed similar views about personal attributes being more important than subject knowledge in a co-teaching partner, even though, in this study, the general education teacher was typically the subject specialist in the relationship.

The availability of common planning time was the key organizational factor identified by the participants as positively influencing effective co-teaching. However, hardly any participants reported having common planning time currently available to them. The participants noted that common planning time would enable them to plan lessons, decide on their respective roles and responsibilities, share instructional materials, and select co-teaching models. Several of the participants also mentioned the importance of this time for reviewing lessons and student progress. It was noted during some of the interviews that common planning need not always involve sitting down together to formally plan the co-teaching arrangements. Although formal planning was seen as particularly useful at the beginning of the school year, the foremost benefit was that, during common planning time, both teachers are available at the same time for informal discussions or sharing of resources.

In summary, the research material indicates that the participants tended to define a successful co-teaching working relationship in terms of the following main conditions:

- the co-teaching partners have compatible personalities and complementary skills and knowledge;

- the co-teaching partners have positive attitudes toward co-teaching and their students;
- the co-teaching partners both have good interpersonal and team-working skills including communication skills, flexibility, and mutual respect for one another;
- there is common planning time available to discuss roles and responsibilities, plan lessons, and review student progress.

### **Research Question 3**

The third research question asked, what best practices emerge from an examination of co- teachers' views of their most successful working relationships? Based on the participants' descriptions and accounts of their most successful working relationships, a number of best practices emerged. These practices related to the implementation and use of co-teaching at both the school or organizational and teacher or classroom levels.

First, at the school or organizational level, the single most important best practice identified by the participants, though infrequently used in their practice, was the use of common planning time. One of the general education teachers reported that the administration had recently implemented a common planning period at the end of the school day in response to a need identified by co-teachers. Similarly, others reported previous experiences of co-teaching in which the co-teaching partners had a coinciding prep period that they used for collective planning purposes.

The second practice was taking into account personal preferences or personalities when planning co-teaching partnerships. There was no participant-reported evidence that this practice was being used in the schools in this study, but the issue of compatibility came through strongly as the one of the primary factors influencing the success of a co-teaching relationship.

The third best practice identified by the participants, but which again was rarely reported in use, was continuity of co-teaching relationships over several school years. Several of the participants emphasized that successful partnerships take more than a year to develop, as the teachers get used to one another's personalities and teaching styles and, in the case of the special education teachers without subject specializations, gain a good level of familiarity with the subject matter. The issue of continuity is in line with previous research indicating that multiple year co-teaching arrangements are more successful than one-year partnerships (Villa et al., 2008).

At the teacher or classroom level, the results indicate several best practices for co-teaching. These are allocation of roles, use of diverse co-teaching models, and alternating roles between co-teaching partners. They are discussed in the following paragraphs.

First, roles and responsibilities should be allocated at the outset of the co-teaching partnership. The allocation should be based on the partners' respective content knowledge or other expertise, as well as on other personal attributes and preferences of the partners. This practice is important to avoid conflict or inefficient use of time and expertise in the classroom. Importantly, this practice can help ensure that students are

clear about the roles of the respective teachers, which leads to better classroom management through enhanced respect for the co-teacher. However, best practice in role allocation also involves flexibility to allow co-teaching partners' roles to evolve and develop over time.

Second, a strong best practice that emerged in relation to the use of models of co-teaching was the use of various models at different times, depending on the lesson objective and students' needs. This practice clearly made the best use of the skills and expertise of teachers while helping to ensure that co-teaching was used to best effect in different types of lessons and classroom activities. This is discussed in detail later in this chapter.

A third best practice, which appeared regardless of the subject matter expertise of the co-teachers, was finding opportunities to alternate roles. In this way, both teachers can lead the class. For example, one teacher could review homework at the beginning of the class period, after which the other teacher could take over instruction. Alternating roles has the important effect of ensuring that the special education teacher plays a central rather than merely a supporting role in the class. This leads the students to view both partners as real teachers equally contributing to instruction, with resulting positive impacts on overall classroom atmosphere, management, and student learning.

### **Additional Findings and Discussion**

The research findings clearly highlight the importance of a holistic approach to understanding effective co-teaching. Such an approach focuses on the relationship between the educators while also taking into account outside influences on the

relationship, such as administrative factors. The qualitative, descriptive research design of the current study encouraged and enabled participants to identify the factors they believed influenced the effectiveness of co-teaching, based on their own experiences and perspectives. Additionally, the inclusion of the post-interview survey enabled me to explore the perceived impact of a range of specific teacher- and school-related factors identified in previous studies.

In addition to the use of common planning time, the findings revealed two important ways in which the participants believed the school administration could contribute to effective co-teaching: appropriate selection or matching of co-teaching partners and continuity of co-teaching partnerships over time. The first relates to the finding that participants see personal compatibility as one of the most important factors contributing to successful co-teaching. Several of the participants indicated that they would like to be able to select their own co-teaching partners; others noted that when planning co-teaching partnerships, the school administration should take personal characteristics and likely compatibility into account. This finding is in line with those of Isherwood and Barger-Anderson's (2008) study, in which the researchers found that incompatible co-teaching matches were common because there was no personality screening or other attempt to make good matches.

Many of the teachers also expressed the view that partnerships should be allowed to continue for several school years. Though many reported that they had been paired with a new co-teaching partner each year, they frequently expressed the view that successful co-teaching partnerships evolve over time as the partners get to know one

another and their teaching styles. In the view of these participants, one year is not long enough for this to happen.

Previous researchers (e.g., Sileo, 2011) have noted that clear role assignment is associated with building successful co-teaching relationships. In contrast, results of this research indicated that, in this educational setting, co-teaching roles tend to be more fluid, evolving over time as co-teachers get to know one another or as they experiment with implementing different models of co-teaching. In the post-interview survey, only a small minority of participants expressed the view that formal role definition by the school administration would be most likely to improve their co-teaching relationship. In this respect, the findings support those of Devecchi and Rouse (2010), who found evidence that collaborative relationships were more important than, and could in fact be prerequisite to, clearly defined roles and responsibilities in the classroom. To an extent, the fluidity of roles among the current sample may be related to the absence of common planning time reported by most of the research participants in this study. When common planning time had been available to them, there was some evidence that the time was used to determine co-teaching roles and responsibilities.

One of the central aspects of a co-teaching relationship in the inclusion setting is the allocation of roles between the general education and the special education teacher. In previous research (e.g., Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007), a lack of adequate content knowledge on the part of special education teachers was documented as a commonly occurring barrier to effective co-teaching. Since general education teachers are often the subject matter experts, it was unsurprising to find in this

study that they frequently take the leading role in teaching, with the special education teacher providing more of a supportive role by assisting individuals or small groups of students. An unanticipated finding, however, was that teachers reported that they often alternated teaching, depending on who had more knowledge of a lesson's specific content matter. Participants mentioned that the roles of special education and general education teachers often overlapped or were interchangeable in the classroom, citing this as a benefit of co-teaching. Several participants expressed the view that this interchangeability was particularly advantageous for the special needs students, who could more easily follow the lessons because of the co-teaching pair's role flexibility.

Among the general education teachers, views were mixed on whether a special education co-teacher without a related content specialization should provide rigorous content instruction. Some expressed the opinion that this is important so that they do not have to waste time teaching subject content to their co-teacher and so that they can more equally share the teaching load. In contrast, others noted that it could be an advantage if the special education co-teacher lacks subject knowledge, since it enables the latter to play a useful role in the classroom by identifying their own areas of uncertainty and seeking clarification, which helps to enhance student learning. Another important finding of this study was that special education teachers have unique skills and expertise in disseminating information and improving instructional outcomes that can benefit all learners in the class. For this reason, it is important to ensure that special education teachers are not relegated to a supportive role focused solely on students with special needs.

Previous researchers have largely focused on identifying which model of co-teaching is most appropriate and beneficial for teachers and students. These researchers (e.g., Friend et al., 2010) have reported, for example, that team teaching is the most effective form of co-teaching, but that one teach, one assist is the most commonly used model (Solis et al., 2012). The results of the current research show that, in practice, at least in this research setting, co-teachers tend to mix and match different models of co-teaching at different times for best effect. Factors influencing their selection of a particular co-teaching model include the lesson topic, type of activity, and learning objectives, as well as the relative levels of expertise and the personal preferences of the co-teaching partners. Selecting the model most appropriate to a specific co-teaching partnership may also help avoid the conflicts that have been found sometimes to arise within models involving a high level of interdependence between the teachers, such as team teaching (Shapiro & Dempsey, 2008).

The findings also highlight the benefits of models that have not been regarded by some researchers as best practice, such as one teach, one assist and one teach, one observe. The results indicated that, although many participants thought team teaching represented a best practice in co-teaching in an ideal situation, practical constraints and influences, such as teachers' subject knowledge and a lack of common planning time, mean that other models may work better in classrooms outside the scope of this study. Based on the results of the post-interview survey, the one teach, one assist model was just as commonly preferred as the team teaching model. The main perceived advantages of the former were that it allows for differences in subject or content knowledge, facilitates

improved classroom management and learning progress, and helps clarify teacher roles and responsibilities using minimal planning time. However, an unexpected finding was that nearly all of the special education teachers interviewed also reported being sometimes involved in team teaching, indicating that these educators typically play more than a supportive, assisting role in this secondary vocational and technical education environment. Also unexpected, based on the results of previous studies, was the extent to which participants reported using station teaching, most often in combination with other models. The significant benefit of this model was perceived to be the ability to offer differentiated learning to different groups of students. Parallel teaching and alternative teaching were also used by some of the participants in combination with other models, with reported benefits.

A central but unanticipated theme that arose from this research was the impact of co-teaching on the overall learning environment or atmosphere, relating in particular to student discipline and classroom management. Previous research has focused largely on identifying the direct impacts of co-teaching students' experiences or outcomes, and to an extent on the relationship between co-teaching partners. When discussing their experiences and perceptions of co-teaching, a number of the research participants gave positive examples of the ways in which co-teaching had contributed to an improved learning environment and in turn to enhanced learning outcomes, indicating that this is an important intervening or contributing factor that should be taken into account when investigating the benefits of co-teaching.

Another unexpected finding involved the training and professional development of co-teachers. Previous researchers have highlighted training and ongoing professional development as very important to co-teachers (e.g., Friend et al., 2010; Scruggs et al., 2007). In contrast, the participants in this study did not emphasize these factors, and only a small number indicated that they had received any formal training in co-teaching. Evidence from the responses, however, indicated that when training had been received, it was helpful to the teachers, had often helped make them more aware of the potential benefits of co-teaching, and had improved their opinions the practice. Professional development, in the form of workshops or other types of training, was also reported to have been useful in providing a forum for co-teachers to provide feedback on their experiences to the school administration and to bring about positive changes, such as the introduction of common planning time.

### **Significance and Implications of the Study**

This study was significant in that it added to the body of research-based knowledge about effective co-teaching and addressed an information gap regarding the use of co-teaching in the vocational and technical secondary education setting. It also contributed valuable information regarding co-teaching relationships from the perspective of the co-teachers themselves, and provided useful insights into the use of co-teaching in practice in this type of educational setting.

The findings of the study help to confirm that co-teaching can work very effectively, from the perspective of the teachers involved, in the vocational and technical secondary education setting, an issue that has not previously been explored to any extent

by other researchers. Findings also provide support for some of previous researchers' conclusions regarding the factors contributing to successful co-teaching and the teacher-related benefits of this practice. Among the research participants, there was a high degree of consensus about the primary factors contributing to effective co-teaching, regardless of the participants' own content area or experiences of co-teaching. Specifically, the participants in this study emphasized the critical importance of personal compatibility between the co-teaching partners, the right kind of personal skills and attributes for co-teaching, and the need for common planning time. These findings generally reflect those of previous researchers (e.g., Hang & Rabren, 2009; Scruggs et al, 2007) and indicate that teachers in this environment may experience the same types of challenges and difficulties reported by previous researchers (e.g., Isherwood & Barger-Anderson, 2008; Scruggs et al., 2007) when the critical success factors are not in place. This means that widely applicable best practice strategies and approaches for overcoming these challenges might be developed based on the research findings.

The study also contributed new information and insights to the body of research-based knowledge about co-teaching. For instance, previous researchers largely focused on comparing the benefits of different models of co-teaching and investigating the extent to which they are used. However, the findings of this study suggest that, at least in this research setting, co-teachers use multiple models of co-teaching at different times to meet the needs of their students and to reflect their own respective levels of knowledge and expertise. Hence, educators need to move away from comparing the merits of different models of co-teaching and from a rigid approach to the use of alternative models, to a

more flexible approach to co-teaching that focuses on the best elements of each model and their applicability to different co-teaching partnerships and classroom situations. It may then become possible to uncover outcome-focused ideas for developing new paradigms in co-teaching based on the use of multiple models.

The other finding that contrasts with those of previous studies relates to co-teacher role definition. Previous researchers (e.g., Wilson, 2008) recommended that co-teacher roles be clearly defined in advance. However, the findings of this study indicate that, in many of the relationships perceived by the participants to be most successful, roles were not predefined in advance, but rather evolved naturally over time as the co-teaching partners became familiar with one another's strengths, teaching styles, and personal preferences. Nevertheless, a small number of participants reported experiences of using common planning time to determine roles and responsibilities in advance and indicated that it had worked well. Importantly, allowing roles to develop and evolve over time requires longevity of the co-teaching partnership. Many participants expressed the desirability of role development over multiple years, although the most commonly reported experience was a change of partner every school year. The study did reveal some evidence of role definitions being based on what had worked in former co-teaching partnerships or based on personal preference, and these are not likely to be the most effective ways of determining how each co-teaching partner can best contribute to the arrangement. Based on the recommendations of previous researchers and the findings of this study, an ideal role allocation process might involve some predefinition of roles and responsibilities. These roles could be based on subject knowledge and other skills and

experience, but with the flexibility to allow roles to evolve and change to reflect the dynamics of the particular co-teaching relationship and the needs of the students.

I hope that, by enhancing understanding of successful co-teaching relationships and providing examples of best practice, the findings of this study will encourage and inform the broader successful use of co-teaching in other vocational and technical schools, traditional high schools, and other educational institutions. Though this study has not focused on discussion of the benefits of co-teaching to students, there is an existing strong body of research-based evidence of benefits for both special needs and mainstream students. The wider adoption of co-teaching best practices, therefore, is likely to improve academic outcomes for larger number of students in the inclusive education setting, with potential lifetime benefits for these individuals.

Finally, the study has theoretical and methodological implications. It has demonstrated the effectiveness of a social constructivist approach to investigating the nature of successful co-teaching relationships, based on in-depth interviews along with a short structured questionnaire. This approach has allowed me to explore co-teaching relationships in practice from the perspective of the individual teachers involved, with no constraints on their ability to contribute information nor restrictions on topics they perceived to be important. At the same time, the use of a post-interview structured questionnaire allowed me to compare the views of the participants with the key findings of previous research on co-teaching, without introducing any bias into the core data collection phase. The methodology allowed for descriptive and qualitative presentation of findings, which provided a comprehensive picture of the participants' views and

experiences of co-teaching. The conceptual framework and methodological approach therefore provide a useful model for research into co-teaching that might be considered for use by future researchers.

### **Recommendations for Practice**

Based on the critical success factors in successful co-teaching, and the types of best practices identified earlier, a number of practical recommendations can be made for schools considering how to best implement effective co-teaching, and for teachers involved in this practice.

1. Wherever possible, co-teaching should be voluntary, because having a positive attitude toward it is a crucial requirement of a successful co-teaching relationship.
2. Co-teaching partners who have compatible personalities and complementary skills and expertise should be partnered whenever possible. Personal preferences might be taken into account if these are based on successful previous experiences of working with particular co-teaching partners.
3. Common planning time should be regarded as a critical component of any co-teaching initiative, since this is highly important in enabling co-teachers to plan, evaluate, and improve co-teaching in order to deliver the desired benefits in terms of student outcomes.
4. As much as possible, co-teaching partnerships should be planned to last for a minimum of two to three years. This will enable the relationship to yield the

maximum benefits as the teaching partners develop and further enhance their working relationship.

5. Formal training and professional development for co-teachers should be provided. Such training should provide understanding and awareness of the nature and possible approaches to co-teaching, and be structured to break down skepticism of the practice. Just as importantly, workshops and other forms of training can be used to improve co-teaching by enabling teachers to share experiences and lessons learned, and to provide feedback and recommendations for improvement to the school administration.
6. At the classroom level, teachers should adopt a flexible approach to using established co-teaching approaches and models in order to meet the needs of their students and to reflect the teachers' respective skills and knowledge of the specific co-teaching models used.
7. Efforts should be made to ensure that, over time, both teachers play a central role in leading the class so that neither is regarded as subordinate by the other teacher or the students.
8. The unique skills and expertise of special education teachers need to be drawn upon for the benefit of all in the classroom; this should be taken into account when allocating roles and responsibilities and selecting co-teaching models.

### **Recommendations for Further Research**

Additional research into co-teaching should explore a wider range of educational settings, defined, not only in terms of the type or level of education, but also in terms of

the academic and sociodemographic profile of the student body, since this may influence the ways in which co-teaching can contribute to improving learning outcomes. In addition to exploring co-teaching from the teachers' perspectives, participant observation or case study research employing a range of research methods might generate additional insights into co-teaching best practices and how various challenges can be overcome at the administrative and classroom levels.

Up to date information is needed regarding the overall prevalence of co-teaching in classrooms within various levels of the education landscape, based on surveys or administrative data collection and evaluation. Such data could provide the basis for designing quantitative or mixed methods research that would provide statistically robust evidence regarding the relationship between co-teaching and student outcomes among special needs students and general education students alike. This data could be beneficial to support a case for increased funding and resources for co-teaching initiatives and training programs.

This study indicated that co-teacher compatibility is important for the success of co-teaching, but methods for co-teacher pairing should be investigated further. When more is understood about co-teacher compatibility, research-driven instruments could be developed to determine compatibility in advance of co-teacher scheduling. Such tools could be used to ensure that teachers are placed appropriately with one another and that each co-teacher brings complementary skills to the partnership.

Additional research is also needed related to co-teacher teaching certification is another area where additional research is necessary. In New Jersey, where this present

research was conducted, pre-service teachers are no longer permitted to receive a stand-alone certificate for teaching special education. At the secondary level, an aspiring educator must also earn a second certification in a content area. Future research could examine how this dynamic changes the co-teaching relationship and affects outcomes in the classroom.

Finally, this study provided a useful theoretical and methodological model for investigating co-teaching within a localized school environment. Other researchers might adopt the model, as well as the interview protocol and post-interview questionnaire, in order to generate a more comprehensive understanding of co-teaching relationships in a range of different settings and to allow for comparability of the findings.

### **Limitations of the Study**

The main limitation of the study was that the findings are not generalizable to the wider population of co-teachers due to the qualitative methods used and the relatively small number of research participants. This is not an inherent weakness; the objective was to generate rich, detailed data on the participants' personal experiences of and views on co-teaching relationships. Such data would not have been possible using strictly quantitative methods.

A further limitation was that the study relied on the willingness of the research participants to discuss their views and experiences of co-teaching openly and honestly with me as a researcher. Since many of the participants were my colleagues, they may have been less likely to disclose all their views and experiences to me than to a researcher whom they did not know personally. There is also a risk that they may have refrained

from fully explaining their experiences in their own words, assuming that as a fellow co-teacher I would already be aware of or understand their point of view. Despite these limitations, there was little observable evidence that information repressed in the interviews. The research participants appeared to be very willing to share their views and experiences at length, and by using best practices in interviewing techniques, I was able to ascertain relevant information without asking leading questions that may have introduced bias into the research findings.

As a further means of preventing researcher bias, another potential limitation of the research, I used member checking as a means of ensuring that the views of participants were recorded faithfully. This involved asking each participant to check their interview transcript to confirm its accuracy.

Finally, there is a possibility that some researcher bias may have influenced the study, as it is not possible to eliminate all sources of researcher bias in constructivist research. What is most important is that the researcher is aware of this and makes every effort not to let their own views or expectations influence the research design, data collection, and analysis process. In qualitative research, consistency can be demonstrated by documenting all data collection and analysis procedures (Miles & Huberman, 1994), and this has been an important component of my research process. It provides an important way of demonstrating the reliability of the research, since other researchers can use the documented information to evaluate the quality of the study and judge whether they would have arrived at the same conclusions based on the data and analysis

techniques (Morse et al., 2002). I have also disclosed my own background and views in the methodology chapter, to allow readers to consider them.

### **Summary**

This dissertation has presented and discussed the findings of this qualitative, descriptive study of co-teaching relationships and best practices in a high school vocational and technical school setting. It has generated valuable information on co-teachers' personal views and experiences that help to confirm the potential benefits of co-teaching in this educational setting and to add new insights to the existing body of knowledge regarding best practices in co-teaching. The study has also demonstrated the value of a social constructivist, qualitative, and descriptive approach to research on co-teaching. Implications of the research findings, which include providing research-based evidence and practical guidance to support the effective application of co-teaching in the vocational and technical setting, as well as in other educational environments, support the ultimate objective of advancing educational outcomes in the classroom.

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## Appendix A Participant Invitation Email

Dear [Name of Teacher]:

I am extending an invitation to you to determine if you would like to serve as a participant in my research study. You were selected as potential subject because you are either a current co-teacher or have recently acted in the capacity as a co-teacher in our district. In my role as a graduate student researcher at Rowan University, I plan to explore stories of success and best practices from practitioners working as co-teachers. It is my hope that the findings of this study will provide the greater educational community with a sound body of knowledge to help improve co-teaching practices.

If you volunteer for this study, you may be selected to participate in a single interview, complete a short written survey and review transcripts / data collected from your interview to ensure accuracy. You will receive a gift card as a thank you for your after-school time.

All collected data will be kept confidential and your name will not be used in any part of the study. Your decision to participate or not participate will not be shared with the district's administration and your participation is completely voluntary.

If you would like to participate or have any questions, please reply to me at [Email Address].

Sincerely,

Eric Menell  
Teacher, [School District]  
Doctoral Candidate, Rowan University

## Appendix B Informed Consent Form

I agree to participate in a study entitled "Exploration of Co-Teachers' Best Practices within a County Vocational Technical School," which is being conducted by Eric Menell, a doctoral candidate in the Educational Leadership Department at Rowan University.

The purpose of this qualitative study is to explore, understand, and express stories of success and best practices from practitioners working as co-teaching pairs in the setting of a county vocational school district.

I agree to participate in a one-on-one interview with the doctoral researcher, and to complete a brief written survey. The interview will be audio recorded in order to produce transcripts for further analysis by the doctoral researcher. The transcripts will be stored in a secure location. My participation in the study should not exceed one hour.

\_\_\_\_\_ I understand my interview will be audio recorded.  
*Initials of Participant*

I understand that my identity will be kept confidential, and that any analysis or discussion of my responses in papers or presentations will not specifically identify me by name.

I understand that there are no physical or psychological risks involved in this study, and that I am free to withdraw my participation at any time without penalty.

I understand that my participation in this study is voluntary.

If I have any questions or problems concerning my participation in this study, I may contact:

Eric Menell	Dr. Michelle Kowalsky	Dr. Shreek Mandayam
Doctoral Researcher, Rowan	Faculty Advisor, Rowan	Research Office, Rowan
[Phone Number]	[Phone Number]	[Phone Number]
[Email Address]	[Email Address]	[Email Address]

My signature on this form indicates that I have read this information and that I am providing my informed consent to participate in this research.

\_\_\_\_\_  
*Signature of Participant*

\_\_\_\_\_  
*Date*

\_\_\_\_\_  
*Signature of Investigator*

\_\_\_\_\_  
*Date*

## **Appendix C Interview Protocol**

### Introductory Info

1. How many years have you served as a co-teacher?
2. How long (how many different years) have you taught with your current co-teaching partner? Previous partners?

### General Perspectives on Co-Teaching

3. What is your personal opinion regarding co-teaching? How has this opinion changed over time?
4. What do you believe are your personal strengths as a co-teacher?

### Co-Teaching Working Relationships

5. Who is your best co-teaching partner and why?
6. Describe your working relationship and roles that you play in the classroom with this co-teaching partner.
7. Tell about an instance where you realized the co-teaching partnership worked.

### Co-Teaching Best Practices

8. Tell about a time, with your co-teacher, where you created an instructional activity which resulted in high levels of student achievement.
9. Is there an established co-teaching model that works best for you? Why do you think it works best?

10. How do you decide who does what in the classroom with each new co-teacher?
11. What factors are most important in insuring that co-teachers can work well together?
12. Is there anything else you would like to add?

## Appendix D Post-Interview Survey

Please answer the questions below as indicated by the directions in **bold**.

1. **Rank**, in numerical order, the characteristics of a co-teacher which are most important to you. (1 is most important, 7 is least important)

- \_\_\_ Effort
- \_\_\_ Teamwork
- \_\_\_ Subject/content knowledge
- \_\_\_ Communication
- \_\_\_ Personality
- \_\_\_ Flexibility
- \_\_\_ Attendance

2. On the whole, which model of co-teaching do you believe works best in your classroom (and for your teaching style)? Descriptions of each model are provided in *italics*. **Check** only one response.

\_\_\_ One teach, one observe

*The leading teacher delivers instruction while the non-leading teacher observes students or the teacher.*

\_\_\_ One teach, one assist

*The leading teacher delivers instruction while the non-leading teacher assists students by helping with tasks or answering questions.*

\_\_\_ Station teaching

*Co-teachers setup different stations and have students rotate between them. Each co-teacher is responsible for one station, and other stations can be independent or led by volunteers.*

\_\_\_ Parallel teaching

*Both co-teachers deliver the same content to different groups of students. The groups are heterogeneous, rather than divided into disabled and non-disabled groups.*

\_\_\_ Alterative teaching

*One teacher provides extra or differentiated instruction to a small group of students while the other teacher provides instruction to the majority of students.*

\_\_\_ Team teaching

*Co-teachers are equal and share teaching responsibilities. Both teachers deliver instruction, support students, and assess students.*

Continue survey →

3. Which of these factors could most improve your relationship with your current co-teacher? **Check** only one response.

- Clear teacher / co-teacher role assignments within the classroom
- Designated co-teacher planning time supported by the administration
- Changing co-teaching instructional models
- Professional development on co-teaching
- Other (Please Specify): \_\_\_\_\_

4. How does co-teaching help students? **Explain** in one to two sentences:

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5. **Check** your current role:

- I am a general education teacher
- I am a special education / in-class resource teacher