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# A Recipe for Success: Essential Administrative and Interpersonal Considerations of Co-Teaching in Secondary Settings

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**A Recipe for Success: Essential Administrative and Interpersonal  
Considerations of Co-Teaching in Secondary Settings**

by

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## Chapter 1: Introduction

The instructional model of co-teaching (also referred to in literature as collaborative or cooperative teaching, team teaching or teaming) initially emerged from general education, and in 1989, Bauwens, Hourcade, and Friend (as cited by Dieker & Murawski, 2003) expanded upon the idea and introduced the practice of general and special education teachers working together in a collaborative manner (Dieker & Murawski, 2003). According to Friend, Cook, Hurley-Chamberlain, and Shamberger (2010):

Co-teaching was first implemented for students with disabilities as part of the movement toward inclusion, a trend that was (and still is) based on a deeply held belief that students with disabilities should be considered children who are members of their learning communities—who also happen to need extraordinary support and services to be educated there. It is imperative that in the push to understand co-teaching, prepare professionals to implement it, incorporate it into school reform efforts, and gather data demonstrating its efficacy, this more fundamental dimension of it not be forgotten. (p. 22)

Before the 1970s, millions of children with disabilities were either refused enrollment or inadequately served by public schools in the United States (Martin, Martin, & Terman, 1996). The Education for All Handicapped Children Act (PL 94-142) in 1975 required all students with disabilities receive a free, appropriate public education and provided a means of funding to help with the additional costs of offering such programs (Martin et al., 1996). In 1983 and 1990, this act was amended and renamed the Individuals with Disabilities Education Act (IDEA), and it introduced the requirement, among many other requirements, of a student needing to receive his or her education in the least restrictive environment (Martin et al., 1996). Today,

for some students with disabilities, the least restrictive environment may be a special education classroom; however, for many students it is the general education classroom with their non-disabled peers. According to the U.S. Department of Education (2016), 3% of 6- to 21-year-old students with disabilities were served in a separate school for students with disabilities in the fall of 2012; conversely, 95% of students with disabilities were served in regular public schools. In 2012, the U.S. Department of Education, National Center for Education Statistics (as cited in Shaffer & Thomas-Brown, 2015) reported that students with disabilities participate in the general education classroom at least 80% of the school day on average—an increase of 55% since the mid-1980s (Shaffer & Thomas-Brown, 2015). Expectations for academic achievement for students with disabilities in public schools have been raised; they should be taught by highly qualified teachers in appropriate content areas and receive their education in the general education setting unless evidence indicates otherwise (Friend et al., 2010). It is also important to note that special educators in a secondary setting may be highly qualified in special education; however, they cannot be expected to be masters of all content areas (chemistry, biology, physical science, world history, etc.). In that respect, collaboration with general education is essential (Dieker, 2001).

### **Co-Teaching Defined**

Co-teaching is an approach that helps students with disabilities access the more rigorous curriculum taught in general education in the least restrictive environment while receiving support from two licensed teachers (Conderman & Hedin, 2013). Another widely accepted definition of co-teaching comes from Cook and Friend (1995) who defined it as “two or more professionals delivering substantive instruction to a diverse or blended group of students in a

single physical space” (p. 2). Friend et al. (2010) pointed out an additional feature of co-teaching—a co-teaching team includes a general educator who has expertise in curriculum and pacing and a special educator who has expertise in the process of learning, differentiation, and teaching until mastery. The “differences in the areas of expertise of the co-teaching professionals add a depth and richness to the co-taught class” (Friend et al., 2010, p. 15). For the purpose of this paper, co-teaching refers to a general education teacher and a special education teacher delivering instruction based on general education curriculum together in some capacity to students, including students with disabilities, in the same space.

### **Co-Teaching in Teacher Preparation Programs**

In addition to co-teaching being used to increase the inclusion of elementary and secondary students with disabilities into the general education classroom, co-teaching is gaining national attention as a model of student teaching used in teacher education programs (Bacharach, Heck, & Dahlberg, 2008). In this form of co-teaching, the cooperating teacher and student teacher collaboratively plan and deliver instruction throughout the student teaching experience (Bacharach et al., 2008). A purpose of utilizing co-teaching during a teacher preparation program is to make the instructional decisions of the cooperating teacher explicit to the student teacher, increasing his or her understanding of the otherwise invisible workings of the classroom (Bacharach et al., 2008). The two teachers—the cooperating teacher and the teacher candidate—work together in a similar fashion to a general education and special education teacher in a primary or secondary school setting—the teachers alternate between assisting or leading the planning, teaching, and evaluation (Bacharach et al., 2008). According to Bacharach et al., “This enhances the learning opportunities for students, combines the knowledge and strengths of both

teachers, and models a positive adult working relationship” (p. 43). A significant portion of the current teaching workforce has not been sufficiently prepared to take on co-teaching roles (Friend et al., 2010). The utilization of co-teaching in teacher preparation programs may help all teacher candidates, whether general education or special education, begin their career with preparation to enter collaborative co-teaching partnerships.

### **Benefits to Students**

Current literature does not frequently address outcomes for students with disabilities who are co-taught (Friend et al., 2010). In a study conducted by Rea, McLaughlin, and Walther-Thomas (as cited in Friend et al., 2010), students in co-taught classes with disabilities performed better than students with disabilities in single-teacher classrooms on measures of report card grades and attendance rates. Rea et al. (as cited in Friend et al., 2010) and Idol (2006, as cited in Friend et al., 2010) both found little to no difference between the performances of students with disabilities on high-stakes testing who received instruction in co-taught classes compared to other classes (as cited in Friend et al., 2010). An additional researcher compared student achievement of students with disabilities in resource (i.e., separate) classes, co-taught classes, and single-teacher general education classes and found no significant differences (Murawski, 2006, as cited in Friend et al., 2010). Murawski speculated that the lack of differences may have been a result of a lack of teacher training in co-teaching practices (as cited in Friend et al., 2010). Other research has focused on examining student perceptions of co-teaching. Wilson and Michaels (as cited in Friend et al., 2010) found that students with disabilities generally preferred to be in co-taught classes and received better grades in co-taught classes; students without disabilities also expressed positive perceptions of co-taught classes. The study conducted by

Wilson and Michaels indicated that “even if specific achievement outcomes cannot be identified, secondary students see a wide range of benefits to participating in a two-teacher class” (Friend et al., 2010, p. 18).

### **Co-Teaching at the Secondary Level**

Co-teaching is challenging to implement in any school setting and many barriers need to be overcome for it to be successful (Nierengarten, 2013). “Making co-teaching relationships beneficial for students and teachers requires careful consideration and a willingness to address challenges that naturally arise when two people work collaboratively” (Pratt, 2014, p. 1). Brown, Howerter, and Morgan (2013) also asserted that “co-teaching can be strengthened through the use of research-based tools” (p. 85). To realize the potential of students with disabilities, special and general educators need to expand their collaborative efforts in assisting these students master the general education curriculum (Warger & Pugach, 1996, as cited in Dieker, 2001). Current literature alludes too frequently to the special education teacher in a co-teaching partnership assuming the role of an assistant rather than a teaching partner (Friend et al., 2010). District- and building-level administrators also need to improve their understanding of co-teaching in order to successfully lead their staff members through its implementation (Friend et al., 2010). Furthermore, visible and active involvement of administrators in planning and implementing a successful co-teaching program is essential (Phillips & McCullough, 1990, as cited in Nierengarten, 2013).

Special and general education teachers at the secondary level encounter unique issues and challenges compared to teachers at the elementary level (Dieker & Murawski, 2003). Cole and McLeskey (as cited in Dieker & Murawski, 2003) identified the following major issues that

impact the success of collaboration at the secondary level: 1) an emphasis on a wide range of complex curriculum, 2) a lack of academic skills and learning strategies among students with disabilities, 3) teachers prepared as content specialists who have little to no knowledge about adaptations, 4) an increased pressure for accountability, and 5) increased autonomy among teachers at the secondary level (as cited in Dieker & Murawski, 2003). Dieker and Murawski pointed out that special education teachers usually receive intense preparation in learning differences and making accommodations and modifications to curriculum but have limited specific content knowledge. This lack of content knowledge often results in the special education teacher acting as a classroom assistant—similar to a paraprofessional. Therefore, “teachers need to be taught how to recognize one another’s areas of expertise and how to collaboratively build upon those strengths” (Dieker & Murawski, 2003, p. 2). Furthermore, co-teachers need to be in agreement about the following on a daily basis to be effective: 1) what will happen in the lesson, 2) who will teach which components of the lesson, 3) instructional models that will be used, and 4) what accommodations and/or modifications will be provided to certain students (Pratt, Imbody, Wolf, & Patterson, 2017).

The purpose of this starred paper was twofold; firstly, to review existing literature that evaluates administrative considerations for implementing or maintaining a secondary co-teaching program. Secondly, interpersonal considerations and strategies in existing literature for teachers to maximize the efficacy of their co-teaching partnerships will be reviewed. “As administrators and teachers work toward enriching the general education classroom through the use of co-teaching, the learning environment can lead to success for all students” (Nierengarten, 2013, p. 82).

## **Research Questions**

The following two major questions guided this literature review:

1. What are the administrative considerations for implementing a secondary co-teaching program?
2. What are the interpersonal considerations for a successful co-teaching partnership?

## **Focus of the Review**

I identified 11 studies for the literature review in Chapter 2; the studies range in dates from 1997–2016. Studies were included in the review if the participants were enrolled in middle or high schools and/or if the co-teachers were teaching in middle or high schools.

The Academic Search Premier, Education Resource Information Center (ERIC) and Google Scholar databases were used to locate studies and books using a variety of keywords and keyword combinations, including but not limited to the following: *administrator/administrative, Cook (author), collaboration, collaborative, collaborative teaching, co-taught, co-teacher, co-teachers, co-teaching, disabilities, effective, effects, Friend (author), high school, interpersonal, learning disabilities, middle school, relationship, secondary, secondary setting, secondary special education, special education, strategies, and students with disabilities.*

## **Importance of the Topic**

As a special educator who co-teaches one or two high school English courses each trimester during the school year, supporting up to 14 students with disabilities, I want to learn strategies to improve upon my co-teaching practices and collaborative partnerships to maximize the benefits for students with disabilities. Oftentimes, I have felt like an assistant to the general education teacher; according to Bassette (as cited in Pratt, 2014), when special education

teachers in collaborative co-teaching partnerships act as assistants, an imbalance in use of expertise and skills is created which hinders effective instruction and learning for all students. Co-teaching is not prioritized when scheduling classes in my building, as co-teaching partners typically do not have common planning time—if in the rare occasion they do have common planning time, it was not purposefully intended. This is a common problem among most schools, particularly secondary schools.

Co-teaching is an instructional arrangement that allows students with disabilities to access the more rigorous general education curriculum and receive instruction in the least restrictive environment possible—the general education setting. It can also allow for a wider range of instructional options, reduce the student-teacher ratio and reduce the stigma for students with disabilities by placing them in a general education classroom (Magiera & Zigmond, 2005). A literature search (1997—2016) on co-teaching, collaborative teaching, inclusion, etc. yielded 11 articles on co-teaching research related to essential considerations at a building/district level and at an interpersonal level. Given how frequently the co-teaching model is utilized in my district and others, it is important to further examine the considerations that are necessary at both levels in order to maximize outcomes for students with disabilities who are co-taught.

## **Chapter 2: A Review of the Literature**

The purpose of this literature review was to determine the essential considerations of implementing a co-teaching model with fidelity at both a building/administrative level and an interpersonal level between the co-teachers within a partnership. This chapter is organized into two major sections: studies that address considerations for implementing or maintaining the co-teaching model in a secondary school, including considerations for professional development opportunities, and studies that examine recommendations and strategies individual teachers can employ within a co-teaching partnership in order to enhance their interpersonal relationship.

### **Administrative Considerations for Implementing a Secondary Co-Teaching Program**

Walther-Thomas (1997) investigated the benefits and problems that teachers and principals reported over time while implementing an inclusive co-teaching model to deliver instruction to students with disabilities. The qualitative study consisted of 23 school-based teams in eight different school districts in Virginia. The teams were comprised of four to six members and included one principal or assistant principal who oversaw the school's special education department, one or more general educators and one or more special educators who co-taught with the participating general educators. Walther-Thomas had three criteria for teams' participation: they were recommended by district-level administrators, the teachers had to co-teach daily for at least 1 hour and all team members had to agree to participate in the study. In all, there were 143 participants; there were 119 teachers and 24 administrators who participated in at least 1 year of this 3 year investigation. Teams were from both elementary and secondary schools, specifically, middle schools.

The researcher employed naturalistic inquiry methodology in the study that included three primary data sources: classroom observations, semi-structured individual interviews, and school-developed documents. Classroom observations were completed by trained graduate students at least once each school year for each co-teaching pair; the observations lasted between 45 and 90 minutes. Observers kept running notes on instructional procedures, co-teaching procedures, students' disability codes, and classroom characteristics. Following each observation was a brief interview with teachers to ensure reporting accuracy. Each spring individual interviews were completed with each participant to review his or her school's inclusive service delivery (co-teaching) progress during the past school year. These interviews lasted between 45 and 90 minutes. The teacher interviews included questions about the co-teaching process (i.e., planning, student scheduling, staff development experiences, support) and the administrator interviews included questions about their roles as facilitators in implementing co-teaching. Both teachers and administrators were asked to expand on any noted benefits and problems that were encountered. Lastly, pertinent school- and district-generated documents were used as a source of information, including record-keeping forms, lesson planning sheets, and staff development materials.

The aforementioned sources of data were coded, reviewed and analyzed by the researcher and several graduate assistants who were either masters or doctoral candidates. The observers and interviewers reviewed all field notes and audiotapes; notes were coded and discrete data units were transferred to color-coded note cards. The research team developed categories based on participant responses as they were reviewed systematically.

This investigation addressed two different dimensions of inclusive service delivery models—lasting benefits and persistent problems. Over the course of the 3 years of the study, many participants reported benefits for students with disabilities in several specific ways, including increasing their self-confidence and self-esteem, improving their academic performance, supporting their social skill development, and building stronger peer relationships in the co-taught classroom. Another noted benefit by the researcher was benefits for general education students. Teachers and administrators reported improved academic performance, increased teacher time and attention, opportunities for strategy and study skill instruction, social skill development, and fostering classroom communities. Benefits for general and special education teachers included increased professional satisfaction and professional growth and more opportunities for collaboration, professional growth, and personal support.

While some definite benefits emerged from the data collected, there were also persistent problems that the researcher organized into five different themes. The first problem was the lack of scheduled planning time; most teachers indicated that at least 1 hour per week was needed to plan five class periods with their teaching partners. The range of time spent co-planning on a weekly basis varied widely among teacher teams—from 0 to 360 minutes. Planning was a more significant problem at the elementary level than at the middle school level where teachers generally worked in grade-level teams. Teachers shared that, over time, planning with the same partner became easier due to the following three general factors that were identified: efficiency increased over time due to the development of planning routines, the special education teacher becoming increasingly familiar with the general education content and increased comfort level in the collaborative relationship over time. Another thematic problem that emerged was student

scheduling—specifically, scheduling students with disabilities into mainstream classes in an effective way. Most teams shared that assigning students required deliberate, thoughtful consideration by counselors, administration, and others who may have a stake in scheduling. The principal’s role in this effort was reported to be critical by many participants, as principals had to “override” computer-generated scheduling in many instances in order to ensure proper placement. It was noted by participants that when too many high-need students (academically and/or behaviorally) were scheduled in one classroom, any effectiveness of co-teaching efforts were futile. In this study, the schools that had the fewest issues with scheduling did not view co-teaching as a strictly special education endeavor and assigned students with disabilities to general education classes using “natural proportions” —i.e., the percentage of students in special education in the building matched the percentage of students in special education in the classroom. Several other thematic problems that emerged from the research included caseload concerns, the need for consistent administrative support and opportunities for professional development.

Overall, while there were identified benefits to co-teaching, there were also persistent problems that were identified across the co-teaching teams. These persistent problem areas included a lack of planning time, poor student scheduling practices which can undermine effective co-teaching practices, lack of administrative support, special education teacher caseloads being too high to address present needs, and a lack of staff or professional development regarding co-teaching practices. These identified problems may be considered essential elements of implementing and sustaining a co-teaching model within a school district or school building, as they do not consist of actual co-teaching, but the supports that need to be in

place in order for co-teaching to occur with maximum effectiveness. The researcher noted several characteristics of schools that made steady progress across the 3 years; the progress was indicated by an increase in co-teaching partnerships, an increase in students with a broad range of disabilities receiving instruction in general education classrooms, and more reported benefits/fewer reported problems. In these schools, the researcher observed common language about co-teaching among teachers, building administrators and district-level administrators. These schools also provided teachers with moral support, recognition, and, when possible, resources to help them develop a co-teaching program. Lastly, these schools demonstrated more commitment to problem-solve issues and put student interests first.

Several limitations of this study include the sample size and demographic: all of the participants were from the state of Virginia. All teams were in schools that were in the early stages of implementing co-teaching; different problems and essential components may be identified in situations in which co-teaching has been an established practice for some time already. An additional limitation was a lack of statistical analysis—all data were qualitatively collected and reviewed, so there may be increased instances of observer error or misinterpretations by the observers and interviewers.

Gerber and Popp (2000) conducted a qualitative study in order to generate recommendations that fall into two categories: general recommendations that address service delivery, administrative and communicative issues, and training recommendations for new and indirectly involved staff, parents, and university pre- and in-service programs. The participants in the study included 14 administrators, 103 teachers, 53 general education students, 70 students in special education, 32 parents of students in general education and 37 parents of students in

special education. These participants came from five different districts, expressly, four elementary schools, four middle schools, and two high schools. The schools had an average of 3.89 years of experience implementing a co-teaching model. In the middle and high schools, co-taught classes were offered in math, science, social studies, and English. The teachers involved in the study had a diverse background in co-teaching training; most had attended professional conferences or workshops, and not all teachers had some degree of training before being assigned to a co-teaching class. The schools in the study included a diverse body of students with varying disabilities; most students with disabilities were identified as having learning disabilities.

The research team, which included a university-based researcher and representatives from the participating school districts, designed and piloted the instrument for the study which was consistent with current literature available on co-teaching. The team conducted one-on-one interviews with administration; data were collected from all other participants by the utilization of focus groups. Six separate interviews were completed at each study site and all interviews were taped and transcribed with the consent of the participants for data analysis purposes. Interviews lasted an average of 45 minutes for administration, 90 minutes for co-teachers, 30 minutes for parents, and 25 minutes for students. All interviews were held in the spring of the school year, so participants had completed a significant amount of the school year with co-teaching experiences. The data were analyzed in three distinct phases: 1) data were reduced, 2) data were reduced and conclusions were verified, and 3) conclusions were linked to the emergence of patterns and themes were linked to co-teaching. The data from the study were verified by an audit of audiotapes, transcripts and field notes. The study themes and conclusions

were checked by a research assistant for accuracy, and a force-field technique was used by the team in order to create recommendations in two different areas. Recommendations were created in general and specific to training.

The generated recommendations were divided into the two groups of general and training; furthermore, they were organized into clusters to demonstrate their relationships with each other. Each cluster was deemed as a necessity for collaborative teaching systems' effectiveness and efficiency. The general recommendation category focused on things that could improve the co-teaching delivery system, whereas, the training recommendation category focused on how teachers, both preservice and in-service, could best be prepared to implement co-teaching.

The general recommendations were organized into three main clusters: delivery of services, containing four recommendations; administrative issues, containing four recommendations; and communication, containing two recommendations. Defining collaboration, setting limits, maintaining multiple service delivery options, and ensuring program continuation were the recommendations in the service delivery cluster. Specifically, schools should set minimum criteria for collaboration and be mindful that the co-teaching model has limits to its effectiveness when resources are overused. Percentages, ratios, or disability categories should not be the criteria used in setting limits; conversely, schools should use the criteria of "academically able" and the severity of disability and needed support as the main considerations. Co-teaching should not be the only option in a school for providing instruction to students with disabilities; a continuum should exist. A school should be able to assure both students and their parents that they will be able to continue to participate in co-taught classes

throughout the students' grade levels. Within the next cluster—administrative issues—the following recommendations were identified: strategic scheduling, planning time, voluntary participation on the part of teachers, and systematic program evaluation. The third general recommendation cluster was communication, and two recommendations emerged—informing parents and reporting on success. The co-teaching program should be well-explained to parents whose children will be in a co-taught class before the school year begins regardless of whether they are in special education or general education. In order to promote knowledge about schoolwide co-teaching programs, success should be formally reported to staff, parents, and the public, as it has the opportunity to nurture positive attitudes about the approach.

The other main category of recommendations according to the research team was in the area of training; new personnel, indirectly involved personnel, parents, and universities were identified as the four cluster areas. Within the cluster of new personnel, it was identified that first time co-teachers need to receive training before co-teaching due to the complicated instructional and interpersonal skills required. New administrators to a school must also receive training in order for them to understand all of the aspects of co-teaching and have opportunities for connecting with other administrators regarding implementation of the model. Thirdly, general education teachers who are not co-teaching and counselors should receive training as a means to recruit future co-teachers and provide assistance to those staff who are involved in scheduling. Parents should be made familiar with co-teaching and its effects on their student. Finally, a recommendation was made for universities to include skills for effective co-teaching in training programs, such as team building, conflict-resolution, problem-solving, and communication skills.

The recommendations that emerged from the participants in this study are consistent with literature on change, proponents of co-teaching, and other inclusive practices. All stakeholders of co-teaching must perceive a level of effectiveness in order for implementation of the model to be successful. The researchers believed that it is helpful to examine strengths and weaknesses of co-teaching in an empirical way in order to determine what changes must be made.

A limitation of this study was the lack of quantitative data; all of the data in this study were qualitative in nature derived from interviews and focus groups. It is not possible to derive any actual statistical significance of their recommendations. The data were empirical and compiled/organized; no interventions or research conditions were examined. While the study had decent representation of urban, suburban, and rural districts, they were all within one relative geographical location. Another limitation is that all of the co-teachers involved had differing levels of training and experience in co-teaching—some had none, whereas others had university or workshop training.

Cramer, Liston, Nevin, and Thousand (2010) investigated ways to meet the needs of teachers and learners through co-teaching in urban/diverse secondary school districts. One of their goals was to examine how to prepare teachers with the skills, knowledge, and professional dispositions that co-teachers need. They completed this through examining two studies that focused on secondary co-teacher teams (one that took place in Florida and another that took place in California). The researchers looked at Cramer and Nevin's research from 2005 (in Florida) (as cited in Cramer et al, 2010) and Liston and Thousand's research from 2004 (in California) (as cited in Cramer et al., 2010).

In Cramer and Nevin's 2005 study (as cited in Cramer et al., 2010), they validated two different instruments that measured beliefs and approaches important in a co-teaching partnership—the Co-Teacher Relationship Scale (CRS) developed by Noonan, McCormick, and Beck in 2003 (as cited in Cramer et al., 2010), and the “Are We Really Co-Teachers Scale” developed by Villa, Thousand, and Nevin in 2004 (as cited in Cramer et al., 2010). The instruments were validated with a convenience sample of elementary and secondary co-teachers in Miami-Dade County Public Schools, which was the fourth largest district in the U.S. at the time of the study. The highest rated items on the two different instruments were similar, and follow-up interviews and observations that were conducted on a subset of survey respondents corroborated the results. On the CRS, the top five rated items were the following: we share responsibility for deciding how to teach; we have fun with the standards and each other when we co-teach; we are flexible and make changes as needed during a lesson; we share ideas, information, and materials; and we are each viewed by our students as their teacher. On the “Are We Really Co-Teachers Scale,” the top five rated items were as followed: flexibility in dealing with unforeseen events, parent involvement, ability to be supportive to colleagues and other staff, interest in learning new things and dedication to teaching.

Interviews and observations of a subset of two co-teaching teams from on high school within the school district were conducted—one team was interviewed separately; the other team was interviewed together. The four teachers taught various levels of science classes at a high school that served a culturally and ethnically diverse student body. Interview and observation scripts were analyzed and common themes and differences emerged. Evidence of flexibility and collaboration was gathered, as those two characteristics were the two top-rated.

In the second study conducted by Liston and Thousand in 2004 (as cited in Cramer et al., 2010), the researchers reported a preliminary analysis of a longitudinal study of co-teaching in the San Diego Unified School District, which was the seventh largest district in the U.S. at the time of the study and had a very diverse student population, including 29% of the student population identified as English language learners and 12% as having disabilities. Teachers at one high school that participated in a program called Project Co-Teach were interviewed. Researchers interviewed 10 general education teachers and 10 special education teachers over a 3-week period about their inclusive teaching practices, observations about student and teacher outcomes, and recommendations for improvement.

Interview transcripts were analyzed to identify any patterns and themes; three themes emerged: evidence of instructional responsiveness, differentiated instructional processes, and differentiated assessment products.

In the first study, only one secondary special education teacher reported participating in co-teaching training in their college teacher preparation program; whereas, all co-teachers received in-service training and planning time to implement co-teaching. In the second study that was reviewed, all of the interviewed co-teachers participated in in-service training co-taught by school district and university staff. Two of those co-teachers had received formal training in their teacher preparation programs. The researchers of this review cited another study that confirmed that there is less effectiveness in co-teaching without training in selecting and planning for implementing the various instructional arrangements available with a co-teaching model (Thousand, Villa, & Nevin, 2007, as cited in Cramer et al., 2010). Researchers also analyzed teacher education standards from different professional education organizations,

including the National Board for Professional Teacher Standards, the Council for Exceptional Children, Interstate New Teacher Assessment and Support Consortium, and the National Council of Accreditation for Teacher Education. Researchers noted that there appeared to be significant agreement among the diverse organizations with respect to knowledge, skills, and professional dispositions for differentiating instruction, working collaboratively with others and supporting the education of diverse students. Co-teacher attitudes, beliefs, and actions in the results of the Florida study appeared to be correlated with some of the organization standards according to the researchers.

Cramer et al. (2010) pointed out that teachers have been vocal about the need for more targeted preparation for co-teaching. In the past and even currently, teacher preparation programs are separated into regular and special education programs that have not provided pre-service teachers with training and experience needed to be effective co-teachers or collaborators. There appears to be a growing need for teacher preparation programs to intentionally prepare both pre-service general and special educators with the skills and experience jump into and be effective in co-teaching partnerships once licensed. When teachers participate in co-teaching, they are demonstrating knowledge, skills, and dispositions outlined in four sets of national professional education standards. According to the researchers, teacher educators should view teaching more holistically and give ample attention to professional dispositions and skills for collaborating with others. Lastly, reflective teaching practices need to grow from self-reflection to team-reflection and include a focus on adult interpersonal interactions. Something that the researchers said can be accomplished by providing teachers

with training in co-teaching at the pre-service level—another practice that could be considered an essential element of co-teaching.

One significant limitation of this study is that only two districts in the United States were examined in two separately planned studies—data cannot be compared too closely in studies that were not planned together. One of the studies reviewed had a very limited sample size of four. The study's results would be strengthened through replication in other school districts in the U.S. and by using larger sample sizes in gathering data from teachers.

Nierengarten and Hughes (2010) conducted a study in the Midwest in which they interviewed and facilitated focus groups of co-teaching pairs at a high school. The high school had a student population of approximately 1190 students in grades 9 through 12; the student body was ethnically diverse and 39% of the students were classified as living in poverty. Sixteen percent of the students received special education services. All of the teachers were partnered and placed in a ninth grade general education classroom, teaching either math, English, or Social Studies. All teachers were experienced; the partnering teachers had an average of 13 years of teaching experience among them, but they were all new to co-teaching.

Each individual teacher participated in 2 hour-long interviews over a 2-year span about their experiences and opinions about co-teaching. The process of guided conversations was used and an interview protocol was developed. The interviews asked about each teacher's experience with co-teaching, including perceptions of benefits and barriers to having an effective partnership. Teachers were also asked about which instructional strategies were significant. Each teacher also participated in three 90-minute focus group interviews—one occurred during the first semester of the first year, one occurred during the second semester of the first year and

the last occurred at the end of the second year of the project. The interviews were recorded in order to be later transcribed and analyzed. All of the co-teachers that were selected for the study participated in a 2-day professional development workshop that was offered the spring semester of both years of the study—it was sponsored by the school district and conducted by the researcher. The workshop's primary focus was to develop the co-teaching relationship and co-teaching practices.

The researcher's goal of this study was to identify teacher perceptions and what principals should know and understand to best support co-teaching in their schools. The following themes emerged from the interviews and focus groups: teacher training, administrator training, compatibility, planning time, student schedules/natural proportions, respect for teaching assignment, administrative support, and professional development. Every teacher participant in the first year volunteered for the co-teaching assignment and attended a 2-day training, so all team members received the same information about co-teaching. Due to some teacher changes after the first year and an expanding of the co-teaching program within the school, additional teachers were 'drafted' by the school's administration to co-teach. The researcher observed hesitation and resistance from the teachers who did not volunteer due to the lack of being involved in the decision. In this study, the district and building administration did not have any training or clear understanding of what is necessary to make co-teaching successful. The researcher noted that the school district did not take ownership of the co-teaching project and offered nothing but verbal support. Each co-teaching team demonstrated varying levels of compatibility—lack of time and attention appeared to have a negative effect on the compatibility. All co-teaching teams agreed that it would have been helpful to receive more designated

planning time; while some teams found time to plan, sometimes it was not used efficiently. At this high school, schedules were generated with a computer program, including the schedules for students in special education. In the math classroom, 75-80% of the students had an IEP or were considered at-risk. Even with two teachers, the needs were too intense; the teachers employed the simplest form of co-teaching. Throughout the 2 years of the project, there were many instances in which the special education teacher was pulled out of a co-taught class to substitute for another teacher; this resulted in teams feeling that their partnerships were not valued. Administrative support was the strongest concern shared by all of the co-teaching teams over the course of the 2 years.

The researcher stated that in order for co-teaching to be successful in a high school setting, the aforementioned factors need to be considered. Additionally, Nierengarten (2013) pointed out that on-going training and support is needed to maintain collaborative/co-teaching programs. It was observed that the original teams were ready for additional training and development after the first year, and if they had stayed together, they would have been able to refine their techniques. The co-teaching pairs shared observed benefits in their students, especially through improved social and classroom behaviors.

This study's most significant limitation is the lack of quantitative data, including even basic data such as how many teachers participated in the study. The data is strictly qualitative stemming from interviews and focus groups. Another limitation is that the teachers all came from one high school in the Midwest, so generalizability may be limited to high schools of similar size and student body characteristics. The principal of the school during the first year of

the project left, and a new principal came in; there were also changes in who was co-teaching, so lack of consistency with school personnel is also a limitation.

Pearl, Dieker, and Kirkpatrick (2012) conducted a 5-year retrospective study on the Arkansas Department of Education's (ADE) statewide Co-teaching Project, which was a comprehensive initiative to implement co-teaching in order to serve students with disabilities in the least restrictive environment. The participants of the retrospective study included five cohorts, 143 school districts, 208 schools, 789 teachers, and 3920 students in the state of Arkansas from 2005-2010. Schools that chose to participate in the Co-teaching Project were required to participate in all components of the co-teaching implementation plan and agree to be a part of the evaluation process. Co-taught classes were implemented at both primary and secondary settings across all subject areas, with most classes in the areas of mathematics and English/language arts/reading. The co-taught classes included students from all disability categories.

Researchers examined components of the professional development that were designed and delivered by the ADE Co-teaching Project in conjunction with the Co-teaching Professional Development Team from the University of Central Florida and the impact on student outcomes and the improvement of co-teaching teams over the 5 years. Components of the project were designed in order to provide foundational/hands-on professional development for co-teaching teams. From each school, a building leadership team (BLT) was designated that was comprised of an administrator who would be overseeing the co-teaching program in his or her building, one general education teacher involved in a co-teaching team, one special education teacher involved in a co-teaching team, and one other school support staff member. The BLTs were responsible

for planning for implementation, overseeing the program, and providing follow-up support to the teams in their respective buildings (including co-teaching resources, onsite coaching, topical webinars and co-teaching evaluations).

Professional development (PD) included a 1-day co-teaching in-service during the first month of school each year to each cohort. Information presented included critical components of co-teaching and how practices can be embedded as well as seven effective strategies. Each co-teaching team also received a 100-page resource book and a lesson planning tool for co-teaching. Throughout the year, the book and lesson planning tool were referenced in webinars and onsite coaching sessions. The BLTs met within 2 or 3 weeks of the first PD session with the goal to ensure all the co-teachers received support for effective co-teaching models when they returned to their schools. The BLTs identified needs for ongoing support which was distributed over the course of the remaining school year, including a day in the middle of year during which co-teachers received guided practice follow-up with opportunities to work in small grade-level groups to improve co-teaching and planning. Additionally, five 1-hour web-based meetings were provided; these webinars focused on differentiating instruction and other classroom issues. Co-teachers turned in lesson plans to the University of Central Florida team for review and feedback. Two webinars focused on implementation issues and evaluating co-teaching; one was specifically designed for administrators and coaches who could support co-taught teams within buildings. There were also individualized supports, including co-teachers receiving assistance through email or phone calls. Each building received 2 half-day onsite coaching visits that could be used however the BLTs deemed appropriate. Some were used for individual

observation and feedback, targeted professional development sessions based on specific topics, or assistance with implementation and improvement planning.

In order to assess the effectiveness of the PD efforts, BLTs completed needs assessments at the beginning and end of each year. The needs assessment addressed five major areas through the following questions:

1. Do we have a clear/common vision?
2. Are there incentives for implementation of co-teaching?
3. Do key personnel possess the necessary knowledge and skills?
4. Are adequate resources available?
5. Is there a well-developed action plan?

Responses were made on a Likert scale with a higher number indicating a higher need. The fall results indicated that 75% of BLTs indicated an average to high need for professional development for all five areas. Data show a 50% drop between the fall and spring in each cohort in the 'high need' category in all five question categories.

Another way researchers measured the effectiveness of the PD efforts was to assess co-teaching partnership processes. Co-teachers who participated completed the Colorado Assessment of Co-teaching (Co-ACT) as a pre- and post-measure of co-teaching. The Co-ACT is a validated tool designed for evaluating the presence of different indicators of co-teaching effectiveness and includes 38 items that address three factors: Personal Prerequisites, the Professional Relationship, and Classroom Dynamics. Co-teachers rate both the presence and the importance of each item (two responses per item). The Co-ACT criteria for an exemplary co-teaching team is a score of 169.08 or higher. For the spring administrations in the study, the

average team scored 3 to 9e points below the 169.08 benchmark. Scores did improve for all co-teacher cohorts, however, following professional development. The researcher conducted paired-sample *t*-tests to measure the impact of the professional development on co-teachers' total scores on the Co-ACT by comparing the fall scores to the spring scores. The 2007/08, 2008/09 and 2009/10 cohorts were administered the Co-ACT in the fall and spring. No significant difference existed for the 2007/08 cohort; however, there was a statistically significant ( $p < 0.05$  or better) increase from fall 2008 ( $M = 157.09$ ,  $SD = 20.87$ ) to spring 2009 ( $M = 165.94$ ,  $SD = 18.86$ ) with a small effect size per the eta squared statistic (0.20). The result indicates that the professional development had a positive impact on co-teaching implementation and effectiveness per the Co-ACT measure. There was another significant increase ( $p < 0.05$  or better) in overall scores between fall and spring in the 2009/10 cohort with a small effect size (eta squared statistic = .23). Despite the average co-teacher scoring 10 points less than exemplary team scores, the improvement over the course of the school year was generally significant. The researcher completed a number of independent samples *t*-tests for overall scores to determine if there were any certain variables that may have impacted Co-ACT response scores. Tests did not reveal any significant differences in scores between general education teachers and special education teachers. Scores were compared for math co-teachers and English/language arts co-teachers, and through an independent-samples *t*-test no significant differences were discovered. The researcher did find significant differences between elementary and secondary school co-teachers for the 2008/09 and 2009/10 cohorts. Results indicated a trend toward more positive perceptions of co-teaching implementation for co-teachers at the primary level and less positive perceptions at the secondary level, with a significant difference ( $p < 0.05$  or better) found via independent-

sample *t*-test between elementary scores in spring 2010 and junior high/high school scores in spring 2010. No significant difference was found between middle school responses and high school responses.

Student outcomes were measured beginning with the 2006/07 cohorts and every year following reporting final grades earned by students both with and without disabilities. The researcher noted that grades may be considered subjective, but other outcomes such as state test scores could not be tied directly to co-teaching teams. Data were separated by school level and subject area; all grades were converted into standard 4.0 GPA values. Paired-sample *t*-tests were completed to compare the mean GPA for students with disabilities to the mean GPA for students without disabilities in each participating co-taught class. Significant differences were found in all cohorts ( $p < 0.05$  or better), which indicates that students without disabilities consistently earn better grades than students with disabilities. Seventy percent of students with disabilities earned grades of “C” or better in co-taught classes. Independent-sample *t*-tests were conducted for all three cohorts to compare the mean GPA for students in elementary co-taught classes to the mean GPA for students in secondary co-taught classes. Statistically significant differences were noted ( $p < 0.05$  or better) between the two groups for students with and without disabilities, suggesting that grade level impacts the performances of all students with lower GPAs being more common in secondary classes than elementary. No significant differences existed between mean GPAs of students in junior high compared to high school.

The results of this study indicate that the professional development model developed by ADE in collaboration with the University of Central Florida had a positive impact on special education service delivery in the state of Arkansas. Statewide implementation of co-teaching,

the effectiveness of co-teachers and positive outcomes for students with disabilities in co-taught classes were observed. Researchers cited that particular differences set the ADE professional development apart from traditional professional development models, including having building administrators and support staff participate in addition to teachers, providing follow-up PD that spanned a whole school year and providing technical assistance and resources on an individual basis. They also stated that future professional development should address the particular challenges related to the co-teaching model and focus on providing additional support to co-teachers at the high school level. Additional recommendations for inclusion in professional development include videotaping exemplary co-teaching teams to be shared, providing targeted visits to buildings or teams with low scores or outcomes, providing resources to BLTs to support evaluation of and improvements in co-teaching after the PD is offered and emphasize the importance of feedback of each co-teaching partner in the evaluation phase.

Limitations of this study include a lack of data with which to compare student outcomes or teacher growth per Co-ACT scores. It would be additionally informative if student outcomes had been measured for students with and without disabilities in classes that were not co-taught, such as a mainstream class taught by just one general education teacher. More conclusions could be drawn about the impact of co-teaching on student outcomes. Additionally, in order to fully assess the benefit of the professional development, there should be a control group of co-teachers who do not receive any professional development. This may not be ethical, however, as it would have potential impacts on student success.

In a doctoral dissertation, San (2015), conducted research to identify policies and practices employed by principals who are identified as effective and who have been leaders in

implementing co-teaching in their schools. Three middle school principals (two female and one male) from a large urban school district in southeastern United States who were identified as highly effective per their most recent principal evaluation system participated in the study. Additional criteria were that the principals needed to be at their current schools for 3 years or more and were nominated for participation in the study by a district-level special education supervisor. Co-teaching teams who were currently co-teaching and employed from each school also participated in the study.

The researcher conducted individual structured interviews with the principal participants. Interviews were recorded and transcribed and field notes were taken. The co-teachers who participated completed a Likert-type survey (the Colorado Assessment of Co-teaching, or Co-ACT, developed by Adams et al., as cited in San, 2015) that focused on the support and procedures implemented for co-teaching at their individual schools. Co-teacher participants answered additional questions added to the survey by the researcher based on data from principal interviews. The researcher also used the school's master schedules, School Improvement Plans and Action Plans as additional sources of data.

The data collected from the principal participant interviews were analyzed using Hycner's guidelines for phenomenological analysis, and triangulation occurred through a survey and review of the documents. The researcher added questions to the Co-ACT in order to more accurately triangulate data.

The researcher found themes related to implementing organizational procedures for co-teaching upon analyzing the participating principals' interview data, which included the following: (a) preparing the setting, (b) preparing co-teaching teams, (c) supporting necessary

co-teacher skill sets, (d) utilizing the leadership team, (e) purposeful selection of co-teaching staff, and (f) addressing barriers. Specific steps in preparing the setting cited by the principals included creating the master schedule, building in or offering time for co-planning and making sure staff have the necessary materials. The principals stated it was important for them to be involved in selecting co-teaching teams. Within the necessary skillsets theme, principals discussed the need for both co-teachers to be knowledgeable in the specific content area. All principals shared the expectation that they want to see both teachers involved in a lesson. Two of the principal participants stated they provide training every year in the topic of co-teaching; the other principal provides online professional development about co-teaching as evidence that all the participating principals support the preparation of co-teaching teams. The fourth identified theme was utilizing the leadership team—all participants shared utilizing their leadership team in implementing organizational procedures for co-teaching, specifically in collaborating with special education department chairs. Fifthly, participants were united in how they purposefully place staff in co-teaching positions—two of them shared they want co-teachers to volunteer or demonstrate a desire to co-teach. Other pieces examined in this process included student data, analyzing student populations, and analyzing teacher effectiveness. One principal utilized other factors when pairing teachers that were not necessarily data-driven, including knowledge of teacher personalities and certifications. The last theme that was identified from the data was addressing barriers; all principals provided some kind of mediation or consultation to co-teachers who are having interpersonal difficulties. All principals also reported holding some kind of meeting or intervention with relevant staff members when a student with disabilities is not making progress.

The researcher also identified themes related to how effective principals develop a culture within their school to support co-teachers. These themes include: 1) culture supporting knowledgeable co-teachers, 2) traits of effective co-teachers, 3) expectations of co-teachers, 4) motivating co-teachers, and 5) attaining buy-in through support and culture. All principal participants provide workshops or trainings in the school in order to support knowledgeable co-teachers. Regarding traits of effective co-teachers, one principal participant stated that effective co-teachers have specific mindsets and attitudes and go above and beyond for students. Another principal shared that co-teachers need to have adaptable personalities; the third principal opts for teachers who are up to for the task of co-teaching and keep students as the focus. All three principal participants mentioned having specific expectations of co-teachers—all expect to see both teachers' active participation when conducting observations. They also all shared that teachers, both general and special education, should instruct all students in the class. Two of the principal participants expressed an understanding that the general education teacher may take the lead more often and conduct most of the planning, as the special education teachers usually work with other teachers and have other preparations. All principal participants recognized and praised their co-teaching staff in some way for their hard work and effort. Moreover, they all stated providing co-teachers with the resources they need to co-teach as a means of motivation. Lastly, all principal participants seemed to attain buy-in through support and culture through needing to have a common mission and vision. Also identified as essential to obtaining buy-in from staff was providing staff support and working collaboratively with staff.

The researcher observed based on the results of this study that effective principals implement co-teaching mindfully—with strategic preparation—and with well-prepared staff who

are provided with support and professional development opportunities on regular and as-needed bases. Principals should have a high level of involvement in both scheduling and selecting teams for co-teaching. They also need to be advocates for co-teachers and students in the face of district policies that may not be conducive to co-teaching—for example, in the study, the district policy was to allow co-taught classrooms to reach 44 students; however, the participating principals capped co-taught classes at the low 30s in order to maximize student support.

This study involved a very small sample size of participants ( $n = 3$ ); in order to improve the validity of the results, a larger sample size should be employed for future research. The requirements of “highly effective” may not be standard across all school districts in the country in evaluating school principals, and the themes/practices that the principal participants shared in interviews may not be what is actually practiced—the researcher did make an attempt to validate their responses by giving co-teachers in the principals’ schools a survey; however, co-teachers may have felt pressure to respond in certain ways given fears of retaliation from administration despite the anonymous nature of the responses.

### **Summary**

This section presented the findings of six studies that proposed necessary considerations of effective implementation of co-teaching at a building or district level, including considerations for professional development opportunities. Table 1 provides a summary of these findings.

**Table 1: Summary of Administrative Considerations Studies**

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
Walther-Thomas (1997)	Qualitative	119 teachers, 24 administrators on 23 school-based teams in 8 Virginia districts (elementary and middle school)	--Researcher conducted classroom observations, semi-structured interviews and gathered school documents.	--Benefits were found for students with and without disabilities (academics, social skills, community)  --Benefits were found for teachers (general and special educators)  --Persistent problems identified: planning time, student scheduling, caseloads, administrative support, staff development
Cramer, Liston, Nevin, & Thousand (2010)	Qualitative	Reviewed two studies that focused on secondary co-teacher teams (one in Florida, one in California)	Qualitative and quantitative data obtained through surveys, interviews and observations were compiled from the two studies and analyzed by the researchers	--Need was identified for more targeted training or preparation for co-teachers --When teachers use co-teaching model, they must demonstrate various standards from national teacher accreditation organizations --Found implications for teacher educators
Gerber & Popp (2000)	Qualitative	14 administrators, 103 teachers, 53 general education students, 70 special education students, 32 parents of general ed. students and 37 parents of special ed. students selected from 4 elementary, middle and high schools	--Individual interviews were conducted with administrators --Focus group interviews were conducted with all other participants --All interviews were videotaped and transcribed and analyzed in three phases to identify recommendation	--Researchers discovered two groups of recommendations: general and training --General recommendations focused on how to directly improve the co-teaching system --Training recommendations focused on how teachers can be prepared to co-teach

Table 1 (continued)

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
Nierengarten & Hughes (2010)	Qualitative	Experienced teachers with an average of 13 years' experience among them who were new to co-teaching partnerships in a Midwest high school; co-teachers were placed in 9th grade math, English or social studies classes	<ul style="list-style-type: none"> <li>--Teachers participated in a 2-day professional development workshop offered in the spring both years of the study</li> <li>--Two hour-long individual interviews for each teacher</li> <li>--Three 90-minute focus groups</li> </ul>	<ul style="list-style-type: none"> <li>--Teacher training, administrator training, compatibility, planning time, student schedules, natural proportions, respect and value for the teaching assignment, administrative support and professional development were identified as factors important to the success of co-teaching in a high school class</li> </ul>
Pearl, Dieker, & Kirkpatrick (2012)	Quantitative and Qualitative	143 school districts, 208 schools, 789 teachers and 3920 students	Arkansas Dept. of Education worked with the University of Central Florida to deliver training and assessment in the implementation of a state-wide co-teaching initiative from 2005-2010. Co-ACT was administered to co-teaching partnerships; grade records were submitted of students in each class with students with disabilities differentiated (letter grades and GPA)	<ul style="list-style-type: none"> <li>--Professional development had a positive impact on co-teaching implementation</li> <li>--Statistically significant differences found between mean GPA for students with and without disabilities in co-taught elementary classes and students in co-taught middle school classes (students did better in elementary)</li> <li>--70% of students with disabilities earned a grade C or better in co-taught classes</li> <li>--Gap between mean GPA for students with and without disabilities narrowed over the four years</li> </ul>

Table 1 (continued)

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
San (2015)	Qualitative	3 middle school principals who were rated as “highly effective” on principal evaluations, nominated by a district-level special education supervisor, and who implemented a co-teaching program in their schools	Semi-structured interviews for the principal participants, surveys for co-teachers at each of the three schools and review of relevant school documents, such as the master schedule	<p>--Researcher identified themes in how the highly effective principals implemented organizational procedures: preparing the setting, preparing co-teaching teams, necessary co-teacher skillsets, utilizing the leadership team, purposeful selection of staff for co-teaching and addressing barriers.</p> <p>--Identified themes in how highly effective principals develop a culture to support co-teachers: culture supporting knowledgeable co-teachers, traits of effective co-teachers, expectations of co-teachers, motivating co-teachers and attaining buy-in</p>

### **Interpersonal Considerations for a Successful Co-Teaching Partnership**

Dieker (2001) conducted a study of co-teaching teams identified as effective in order to determine what characteristics the teams shared. Each team that participated in the study consisted of a general education teacher and a special education teacher who co-taught at least one class per day. The researcher received written or verbal nominations from professors, district administrators, and inclusion facilitators ( $n = 72$ ) in a Midwestern urban school district; 15 teams received three or more nominations. Nine of the teams that would be working together again the following school year and who consented to participate in the study participated—the nine teams were comprised of nine general education teachers and seven special education

teachers, as two of the special educators co-taught two or more general education classes. Seven of the teams were in a middle school and two of the teams were in a high school; all teams represented a total of seven different schools. On average, the general education teachers had 7.6 years of teaching experience and the special education teachers had 7.4 years. All teams had been working together for 1-3 years and had students with a variety of disabilities (learning disabilities, emotional/behavioral disabilities, mild-to-moderate cognitive disabilities and autism) in their classes.

The researcher collected four different kinds of data; first, four observations of each team over the course of 16 weeks were completed and videotaped when possible. A content analysis procedure was used to identify patterns from the observation field notes and reviews of the tapes. Second, each team was also asked to track the amount of time they spent planning for their co-taught classes for the course of 6 weeks; teams recorded both the amount of time they had and the amount of time they wish they had each day. Students were interviewed as the third means of data collection. Six students from each class (two who had disability, two identified as being fail risks, and two identified as high-achieving) were administered a structured interview protocol which included questions about their thoughts of having two teachers and perceived benefits. The final type of data collected was through individual interviews with 14 of the 16 teachers, again, following a structured protocol. The protocol asked teachers how they developed their relationship, “the types of co-teaching options used in instruction, the benefits of the process, the barriers to the process, the solutions they had found to overcoming barriers, and the methods used to evaluate students and the co-teaching process” (Dieker, 2001, p. 16).

The gathered data were analyzed through content analysis procedures in which the researcher identified, classified, and verified themes and categories. To ensure a high degree of reliability, a naive independent rater coded data, which was compared to the researcher's data. For themes to be included in the study, a level of 80% agreement or more was needed between the researcher and the naive independent rater. The researcher also calculated simple descriptive statistics to report the average amount of planning time and the average amount of time that was desired. The themes reported later had 86% point-by-point agreement across the three data sources (observations and interviews); planning time data was reported separately.

The researcher first described each of the team's structures. Four of the teams primarily utilized the one teacher lead-one teacher support model; four other teams primarily utilized the team teaching approach to co-teaching. Notably, all of the latter teams had a common planning period build into their schedules on a daily basis. Due to behavioral changes presented by students, one team used a variety of options on a consistent basis, including parallel teaching, alternative teaching, station teaching and team teaching.

The researcher identified six themes that emerged from studying nine effective co-teaching teams—creating a positive climate, positive perception of co-teaching by all members, active learning, high expectations for behavior and academic performance, planning, and multiple methods used to evaluate student progress. Within the creating a positive climate theme, the researcher observed that in all nine teams, all students were accepted as members of the class by their peers and teachers. The researcher noted that the positive climate may be partially attributed to all teachers having volunteered for their co-teaching positions. Three other factors appeared to impact the positive climate, including having natural peer supports, actions

and language of teachers conveyed acceptance of all students, and a continuum of special education services was available in most teams (seven of the nine). The second theme was that all members involved (students and teachers) perceived co-teaching to be positive. All students (n = 54) but one said they received a benefit by being in a co-taught class. The one student who disagreed had an emotional/behavioral disability who stated that he/she could not get away with anything. Forty-seven students reported more academic support or less problem behavior because of having two teachers. Teachers also focused on positive outcomes for both student growth and personal professional growth despite identifying problems. In most observations (33 of 36), more than half of the lessons involved active learning, which was identified by teachers as an important to student success and ease of making accommodations. Expectations remained high for all students for both behavior and academics. All nine of the teams had a system in place for planning time, but they all commented on the difficulty in finding time. The average amount of time that teams had available to them for common planning was 9.1 minutes per day (3.7 to 17.5). The teams reported wanting an average of 25.7 minutes per day (18 to 43.5). The last theme the teams demonstrated was using multiple means of evaluating student progress.

The researcher proposed additional recommendations for secondary teachers when developing or changing co-teaching structures based on practices observed in the study and best practices identified in current literature. The first recommendation made was for teams to conduct a pre-planning session before co-teaching began in order to identify teacher roles, share curriculum expectations, and discuss the needs of individual students and ideas about how to meet all the needs. The second recommendation was that teachers should prepare students with

disabilities for participation in the general education setting if they have had limited experience in that setting. Within this recommendation, the researcher included the development of peer support structures in class. Third, it was recommended that teams consider how academic and behavioral needs will affect the co-teaching process. In the study, the researcher observed a lack on both the part of the general educator and special educator of articulating goals for individual lessons—something that was less apparent when teams had common planning time. The special education teacher needs to identify IEP goals that can be met within the co-taught class and communicate with the general educator how they may be included. A fourth recommendation made was to set both academic and behavioral goals for the students. Fifth, roles of both teachers should be clarified ahead of time and use active learning as much as possible. Additional recommendations included securing common planning time, continuing to offer a continuum of service options to students with disabilities and develop an evaluation plan of the co-teaching relationship.

Limitations of this study included limited demographic information including no data regarding class sizes or class composition of how many students total and how many students with disabilities. Another limitation was that all of the participating teachers volunteered to be co-teachers; this is not the case in all co-teaching relationships, as it is not always a choice. Despite measures to ensure reliability on the part of the researcher, there was a lack of quantitative data supporting the effectiveness of the nominated teams.

Bacharach et al. (2008) conducted a study in order to identify essential elements of what makes a co-teaching partnership work. Thirty teachers who were identified by university supervisors as effective co-teachers were invited to participate in completing the pilot version of

an instrument developed by university faculty called “What Makes Co-Teaching Work” (WMCW). Of the original pool, 16 teachers completed the WMCW and all but one attended a follow-up half day workshop to review the instrument and findings. Based on feedback received from the teachers, the researchers made minor revisions to the WMCW.

The WMCW required participants to rate 32 different elements that were identified as being fundamental to co-teaching through the use of a 6-point Likert scale. Additionally, participants rated how much they agreed or disagreed with eight different value statements about co-teaching.

Sixty teacher candidates who utilized co-teaching during their teacher preparation programs through the university were invited to participate in a focus group and asked to brainstorm elements they believed to be essential to co-teaching success. These teacher candidates also completed the instrument that was developed and revised and participated in follow-up focus group discussions.

Researchers found that the five most important elements according to the cooperating (licensed) teachers were: 1) sharing leadership, 2) planning together, 3) respect and trust, 4) honest communication at all times, and 5) the teacher candidate taking leadership in planning and teaching. The results of the teacher candidate responses were slightly different; three of the most important elements were the same as those identified by the cooperating teachers. The three that were agreed upon included respect and trust, honest communication and sharing leadership. The other two important elements identified by the teacher candidates were sharing creative ideas and materials and students viewing them as an actual teacher. Based upon the results, researchers developed five more general categories of elements of co-teaching: planning,

communication, relationship, classroom applications, and co-teaching knowledge base. Within the communication cluster were the following specific elements: active listening to suggestions, feedback and instructions, attending to body language and nonverbal cues, communicating honestly, and compromising in conversations, among others. The relationship cluster included seven specific elements, including but limited to respecting each other, being in sync and knowing when to jump in. Classroom applications was comprised of sharing control and leadership, handling interruptions seamlessly, using co-teaching strategies to differentiate instruction, etc. The last expanded cluster was having a knowledge base of co-teaching, in addition to the category of planning.

Despite this study being conducted with cooperating teachers and teacher candidates, the results are applicable to a co-teaching partnership comprised of two licensed teachers. The researchers stated the five identified critical components may not occur naturally within each co-teaching partnership; they may need to be mindfully developed and fostered by each teacher in the relationship.

A limitation of this study in generalizing to co-teaching situations in schools with licensed teachers was that it was conducted via a university teacher preparation program. While the WCWM tool was piloted and revised, it should be used and validated across other teacher demographics. A larger sample size could also improve generalizability.

Pratt (2014) conducted a study to explore how effective secondary co-teachers resolve challenges in their co-teaching relationships. Five co-teaching teams (five general education teachers and five special education teachers) from an urban school district in Iowa participated in the study. Initially, four teams were in the study. Three teams taught at one high school, one

team taught at another high school and the other team taught at a middle school. The teams all met criteria for effective co-teaching teams. Teachers had between 2 and 26 years of co-teaching experience and between 4 and 26 years of overall teaching experience.

The data were collected qualitatively through focus groups, interpersonal behavior questionnaires, observations, and individual interviews that were all completed between January and March, 2012. The researcher completed data analysis simultaneously with data collection. The focus groups were recorded and facilitated through a semi-structured format to ensure consistency of topics. The interpersonal questionnaires consisted of statements clustered in three dimensions: inclusion, control, and openness; participants responded to each statement on a 0-9 numerical scale from disagree to agree. The focus groups were transcribed verbatim and analyzed for emerging themes on challenges and possible resolutions. The researcher employed multiple rounds of analysis with a constant comparison method. A peer reviewer examined each coded transcript and made revisions to the coding for consistency. The researcher became interested in addressing whether mixed gender teams impacted the way teams addressed possible conflict, so another co-teaching team was added. Each team was observed twice for an average of 59 minutes during instruction; the first observation was planned, and the second observation occurred unannounced. The researcher made notes of teacher actions, conversations, the setting, and classroom events; these notes were coded and organized into emerging themes. Lastly, each teacher was interviewed individually with a semi-structured format. During the individual interviews, the researcher reviewed the data findings and visual model the researcher proposed and participants verified the themes, offering additional information to clarify the visual model.

Based on the data, the researcher proposed a theory titled Achieving Symbiosis that includes three stages: Initiation, Symbiosis Spin, and Fulfillment which depict the process of creating effective co-teaching partnerships. In the Initiation stage, the researcher describes the different ways the participants began co-teaching—some volunteered, some were asked, and some were expected by administration. The researcher observed the participants' feelings about their initial co-teaching assignment occurring on a feeling continuum of hesitation to anticipation. When participants felt their co-teaching colleague was compatible and/or wanted to be an equal contributor, they seemed to form a peer mentoring relationship. In the middle, Symbiosis Spin Stage, the researcher outlined three sub-stages of testing the waters, building a partnership and reflecting to improve. The researcher observed these sub-stages as occurring in a looping manner. External factors were identified by the researcher to cause the looping pattern, including the compatibility of the teachers, needed dimensions for symbiotic relationships, and strategies teachers used to become more effective in their partnerships. Participants discussed their need to learn about their partner's' personalities, teaching styles, expectations, and goals through conversation and observation. Participants used both trial and error and formal planning as ways to test the waters in their early co-teaching partnerships. As participants began to complement their co-teaching partner's styles and minimize interruptions, they began to build a partnership. Participants used reflection to improve their partnerships. As the participants move through the Symbiosis Spin, the researcher outlined how compatibility impacts the journey. Having similar views on inclusion seemed to be particularly important within each partnership. Individual style and knowledge was also observed to be a means of complementing and strengthening the partnership. The third external component in the

Symbiosis Spin stage is external factors, including professional development, co-planning time, and administrative support.

The researcher observed several different strategies that participants used in overcoming challenges which included the following: being open-minded, using open communication, finding common ground, using humor, being selfless, and asking to help. Being open-minded meant listening to ideas and giving them consideration before discrediting them. Participants shared the importance of open communication through dedicating the time to conversations even if they are difficult. They cited how if issues are voided, they become more difficult to resolve. Participants needed to find common ground through compromising on different issues including grading and classroom management, and some participants used humor to reduce tension. Humor appeared to increase participants' enjoyment in working together. Participants also talked about being selfless through considering their partner and not taking criticism personally. The researcher noted that when participants used the aforementioned strategies, they were improving their relationship and instruction for students simultaneously. To move through the Symbiosis Stage, participants had to commit to working through resolving misunderstandings rather than fearing misunderstandings.

The last stage, Fulfillment, occurs when both teachers within a co-teaching partnership are personally and professionally fulfilled. It takes partnerships varying degrees of time to reach the Fulfillment stage; some participants said a few months, others were still working on reaching the stage in their second year of teaching together. The researcher identified components that were required for Fulfillment—valuing the relationship, handling challenges smoothly, having seamless instruction, having all the needed dimensions from the Symbiosis Spin, reflection and

compatibility. When participating teachers were in the Fulfillment stage, any sources of conflict came from outside the relationship, such as student-related issues or administrative pressure.

The researcher developed the aforementioned theory in response to a gap that was observed in the literature by showing how effective co-teachers overcome challenges and problem-solve. The researcher acknowledged that co-teachers can find equality in the partnership through using their specialized skillsets or pedagogical knowledge, but also through the use of other specific strategies, such as having open communication with one another. The model proposed by the researcher of co-teaching partnership development is consistent with other theories in the literature. The researcher recommends that co-teachers use their individual strengths and learn from their partner's strengths in order to make the partnership effective.

This study is limited by its qualitative nature based on the researcher's interpretations of the data in which biases may exist. The sample size of the study was very small and participants came from one district in one Midwestern state; they were all unique in that all co-teaching teams had co-planning time built into their schedules, which is not typical. Generalizability is limited by the sample size and the unique opportunity teams had with co-planning time. The theory should be validated by additional researchers to ensure soundness.

Edwards (2016) conducted a qualitative study to observe exemplary co-teaching teams in order to identify variables that enhanced effective collaboration. The study took place at Green Valley High School—a public high school (grades 9-12) in New Jersey—chosen for its high quality co-teaching models and strong administrative support for co-teaching. Participants were two co-teaching pairs ( $n = 4$ ) who were selected from six teams who were recommended from the assistant superintendent. The six nominated teams were administered the Co-teaching Rating

Scale (CtRS) for General and Special Education teachers published by Gately and Gately, 2001. The CtRS is a list of 24 statements that describe co-teaching practices and reference interpersonal communication, instructional planning, classroom management, among other dimensions. The two sets of co-teaching partners with the highest combined score were selected for the study. One co-teaching pair taught Biology and the other taught World History.

The researcher collected several types of data. Three observations of each co-teaching team were completed with an observational protocol developed by the researcher. Following each observation was an informal conversation session during which any clarifying questions could be asked. The observations lasted the entire class period—56 minutes. Observation data was coded into one of the following categories: general information, co-teacher communication, lesson development/presentation, classroom climate, student engagement, co-teaching approach, classroom management and differentiation. The researcher also conducted three semi-structured interviews with each co-teaching partnership. These interviews were audio-recorded and transcribed. Lastly, the researcher collected all documents generated by each co-teaching partnership during classroom observations or common planning periods.

In order to analyze the data collected, the researcher followed six steps outlined by Creswell (2009) (as cited in Edwards, 2016): 1) organize and prepare the data, 2) read through the data, 3) code, 4) develop categories/themes, 5) determine how themes will be represented, and 6) interpret the data.

The researcher concluded that each exemplary co-teaching pair had a set of shared values and beliefs identified as their commitment to co-teaching and to their partner, the language both partners used when talking to/about each other and the influence that sports coaching has had on

their co-teaching methods. The four participants were all very supportive of the co-teaching model and perceive their experiences with their co-teaching partners as highly productive and positive. Both pairs defined their co-teaching partnerships as combining the strengths of a teacher specialized in content and curriculum with a special education teacher specialized in enhancing the curriculum and differentiation. Teachers talked about having shared visions and goals for their students. The four co-teachers consistently used inclusive language such as “we” and “our” when referring to their partnership, students or class both during the observations while they were teaching and during the interviews. The researcher discovered that all four teachers selected for the study participated in sports at the high school and college level and were currently coaching a high school sports team during the study. The researcher also learned how the participants used their experience/knowledge of coaching in their co-teaching—they seemed to view co-teaching similarly to being on a team.

In addition to shared values and beliefs, the researcher identified several practices that the co-teaching partners exhibited—the researcher felt their practices provided a window for how effective teams work together. The researcher identified effective communication as a commonality between the two partnerships. They communicated openly and had effective verbal and nonverbal communication skills. Within verbal communication, the researcher noted the participants needed to share information, make decisions, solve problems, and manage conflict. Both pairs of co-teaching partners communicated with one another before, during, and after class. The researcher also noted glances, nods and gestures during the observations—participants developed systems of nonverbally communicating as a means of checking-in during class.

Another essential element identified by the researcher that the co-teaching pairs had in common was what the researcher referred to as a personalized toolkit, defined as the procedures, strategies, materials, resources, and ideas that each co-teaching pair found to be effective in collaboration to meet the needs of all learners in their classroom. The development of the tools required a significant amount of each teacher's time, energy, and expertise. For example, the history co-teachers developed a roadmap of their course and revised it over their several years working together. The history co-teachers also employed the use of a reflective journal located on a teacher desk in the classroom anytime they have a new idea or strategy. Both co-teaching pairs developed co-teaching webpages for their respective classes.

The last theme that emerged in what characterizes the exemplary co-teaching pairs is the development of structural supports—this theme addresses the first question of this paper, however, it will be summarized in this section. The researcher noted that both co-teaching pairs volunteered to teach together—they were not assigned. Both pairs had administrative support after requesting to co-teach together and have been able to obtain co-planning time. Also, both members of each pair were highly qualified teachers in their respective areas.

A limitation of this study was that there was no 'control' co-teaching partnership in order to really delineate practices of 'exemplary' co-teachers from 'average' or 'below average' co-teachers. Another limitation is the very small sample size ( $n = 4$ ); future studies should include more participants and examine different proficiencies of co-teaching partnerships. If this study is replicated, it should also utilize participants from other parts of the United States from different size schools to increase the generalizability of results.

Fluijt, Bakker, and Struyf (2016) conducted a literature review of 17 articles about co-teaching teams' professional development in order to determine if reflection or team-reflection is used as a method for collecting data on said professional development. The authors also wanted to identify challenges for co-teaching teams' professional development and possible ways the challenges may be addressed. The authors searched for articles between 2004 and 2015 in the following databases: Science Direct, CINAHL, ERIC, Business Source Elite, and Communication and Mass Media Complete. The following descriptors were used in the search: assessment tools, assessment, reflection, co-review, co-review teaching, co-teaching appraisal, and co-teaching observation. The search resulted in 273 articles; authors then sorted through them by hand with the criteria that 'professional development' be in the title or abstract or mention of training programs. Seventeen research articles met the criteria; the articles were from the USA, Europe, and China.

The authors employed a thematic coding search procedure in order to identify the aforementioned 17 articles. Internal validity of the research was ensured by choosing specific search descriptors and a systematic analysis of the results; reliability was increased by having two colleague researchers separately review the research. The authors analyzed the articles in two phases: 1) articles were screened in whether or not a tool for team-reflection was utilized, and 2) each study was coded by author and publication date, including a description of the research and identified challenges for development.

Results of the first phase of analysis showed that 16 of 17 articles did not use direct data from team-reflection. Instead, other research methods were employed, including literature reviews, interviews of individual participants, surveys, and observations. Most results were

described based on observable behaviors including experiences, skills, and attitudes that were interpreted by the respective researchers. The studies did not include data of reflections of co-teachers. Three articles included data retrieved from team-reflection of co-teaching teams using group interviews, class observations, individual interviews, and interpersonal questionnaires. Again, this data primarily described experiences, skills, and attitudes. Two articles proposed tools to use for team-reflection, however, there was no data to support the effectiveness of the tools. One tool, the 'Checklist for Purposeful Co-Assessment' (Conderman & Hedin, 2012, as cited in Fluijt et al., 2016, p. 192), contains 15 items and is meant to assist co-teachers in assessing together how their lessons are planned, delivered, and evaluated. The second tool, the 'SHARE Worksheet' (Murawski & Dieker, 2004, as cited in Fluijt et al., 2016, p. 193), was designed to be used by co-teachers for reflection on a regular basis to discuss responses of co-teachers and to decide whether to agree, compromise, or agree to disagree. SHARE is an acronym that stands for sharing hopes, attitudes, responsibilities, and expectations. The authors found the first tool focused on the learning results of students, whereas the second tool focused on effective collaboration. Both tools, however, still focused on observable behavior according to the authors.

In the second phase, the authors found via thematic coding the following challenges co-teachers face: challenges related to co-teaching teams, challenges with individual co-teachers and challenges with their administrator. The authors found most challenges referred to teams. The challenges were further separated by the authors into inner processes (interpersonal) and observable processes (instrumental). Interpersonal challenges were mentioned three times more often than instrumental challenges in the 17 articles. The authors concluded that most challenges

were addressed to co-teaching teams in which interpersonal aspects of both the team and individual were important. The authors identified six codes that represented what is needed to be a good co-teacher: 1) development relating to virtues/strengths, 2) development relating to the content/thoughts about good education, 3) discussions related to the practices of co-teaching teams, 4) contributing strategies to normative development, 5) global normative perspective on educational professionalism, and 6) effective co-teaching strategies. The most frequently mentioned challenges in the literature were related to the first and second codes.

The author's purpose was to determine whether or not co-teaching teams used team reflection and which challenges co-teachers face; they found almost no data collected by team reflection in the articles they reviewed. In general, most challenges reported were related to personal issues in co-teaching teams rather than skills or instrument needs. The authors felt this indicated that more attention should be paid to personal issues of co-teaching teams and a tool should be developed for team reflection that addresses the challenges co-teachers indicated. The authors identified three conditions for a successful co-teaching team: 1) co-teaching teams should develop a shared vision regarding what they consider is good teaching and learning and how responsibility will be shared, 2) all students in the class, regardless of special education or general education status, should be seen as an individual with his/her own possibilities, and 3) students and co-teachers should work together over an extended time during which they can build trust and develop a caring relationship.

Future research should be focused on the development of a team-reflection tool that co-teaching teams can utilize as a means to establish a shared vision and have a conversation. A limitation of this study is that no original research was completed; different articles were used

with different methods, participants, sample sizes, etc. and reviewed to look for general patterns. The studies were from three different countries, which also makes the research less generalizable to just one population.

### Summary

This section presented the findings of five studies that examined essential elements of an effective co-teaching partnership at an interpersonal level between co-teachers. Table 2 provides a summary of these findings.

**Table 2: Summary of Interpersonal Considerations Studies**

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
Dieker (2001)	Qualitative	Nine co-teaching teams (7 middle school teams and 2 high school teams); 9 general education teachers and 7 special education teachers; six students from each co-taught class	Four different types of data were collected: each team was observed four times and videotaped, teams documented amount of time spent in planning, students were interviewed to determine what practices they perceived were used to make teams effective and teachers were interviewed.	--Four teams used one teacher lead-one teacher support model; four teams used team teaching as the primary model; one team used a variety of options  --Practices observed: creating a positive climate, positive perceptions of co-teaching shared by all members, active learning, high expectations for behavior and academic performance, planning, multiple methods used to evaluate student progress
Bacharach, Heck, & Dahlberg (2008)	Qualitative	6 university faculty, 13 cooperating teachers, and 59 teacher candidates	University faculty created a What Makes Co-teaching Work instrument (6-point Likert scale); the cooperating teachers and teacher candidates rated the importance of 32 fundamental elements	--The five most critical elements according to cooperating teachers were sharing leadership in the classroom, planning together for co-taught instruction, respecting and trusting each other, communicating honestly and the teacher candidate assuming leadership in planning and teaching lessons.

Table 2 (continued)

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
Pratt (2014)	Qualitative	5 co-teaching teams (5 general education teachers and 5 special education teachers) from three secondary schools in an urban Iowa district	Semi-structured focus groups, interpersonal questionnaires, two hour-long observations of each team and semi-structured individual interviews were conducted for data collection	<p>--Researcher developed a theory of establishing effective co-teaching partnerships called Achieving Symbiosis which includes three stages: Initiation, Symbiosis Spin and Fulfillment</p> <p>--Researcher found many different strategies co-teachers used for conflict resolution and establishing an effective relationship</p>
Edwards (2016)	Qualitative	2 co-teaching partnerships (2 general education teachers and 2 special education teachers) identified as exemplary by administration and a co-teaching assessment tool	Observations, semi-structured interviews and collection of documents generated by co-teaching pairs during observations and common planning time were used as data.	<p>--Researcher found that co-teaching pairs held similar values and beliefs</p> <p>--Co-teaching pairs had effective verbal and nonverbal communication skills</p> <p>--Co-teaching pairs developed some kind of personalized toolkit (roadmap, websites)</p> <p>--Co-teachers also identified structural supports that contributed to their effectiveness</p>

Table 2 (continued)

AUTHORS	STUDY DESIGN	PARTICIPANTS	PROCEDURE	FINDINGS
Fluijt, Bakker, & Struyf (2016)	Qualitative	17 research articles were reviewed between 2004 and 2015	A thematic coding search procedure was utilized; results were systematically analyzed in two phases and outside researchers also reviewed for increased reliability	<p>--16 of 17 articles did not use any kind of team-reflection; focused on observable skills, attitudes and behaviors</p> <p>--2 tools were identified: Checklist for Purposeful Co-Assessment and the SHARE Worksheet</p> <p>--Most challenges referred to the co-teaching team itself</p> <p>--6 codes identified for what it means to be a good co-teacher</p>

### Summary

This chapter presented a review of 11 studies that examined considerations at a building level necessary for the effective implementation of a secondary level co-teaching program and that examined the interpersonal intricacies required to establish and sustain a successful co-teaching partnership at an individual level. Conclusions and recommendations are discussed in Chapter 3.

### **Chapter 3: Conclusions and Recommendations**

The purpose of this literature review was to examine the essential considerations of implementing a co-teaching model with fidelity at both a building/administrative level and an interpersonal level between teachers within a co-teaching partnership. Chapter 1 provided background information on the topic of co-teaching, and Chapter 2 presented a review of 10 recent and relevant research articles. In this chapter, I discuss findings, recommendations, and implications elicited from current research in the area.

#### **Conclusions**

I reviewed 11 studies that examined essential considerations at both a building/administrative level and at an interpersonal level of implementing a co-teaching model in order for students with disabilities to receive their instruction in the least restrictive environment. All of the studies were conducted in secondary schools, which include middle and high schools (generally, grades 6-12). Six of the studies focused on what building and/or administrative supports are necessary for effective co-teaching to take place (Cramer et al., 2010; Gerber & Popp, 2000; Nierengarten & Hughes, 2010; Pearl et al., 2012; San, 2015; Walther-Thomas, 1997). Five studies focused on the interpersonal relationship or dynamic between co-teachers (Bacharach et al., 2008; Dieker, 2001; Edwards, 2016; Fluijt et al., 2016; Pratt, 2014).

#### **Implementing a Co-Teaching Model at a Building/Administrative Level**

Of the six studies focusing on building and/or administrative supports, three cited the importance of support from administration (including special education leads, assistant principals, principals, and other administrative positions) to the success of co-teaching (Gerber & Popp, 2000; Nierengarten & Hughes, 2010; Walther-Thomas, 1997). Nierengarten and Hughes

claimed that nearly every factor that lends itself to successful co-teaching depends upon an administration that is supportive and invested.

One factor that depends upon administrative support is co-planning time. Co-planning time is a significant need for co-teachers to be effective and is something administration can assist in scheduling (Gerber & Popp, 2000; Nierengarten & Hughes, 2010; San, 2015; Walther-Thomas, 1997); however, Walther-Thomas identified that as a co-teaching partnership continues over time, co-planning becomes easier and more efficient. All administrative (principal) participants in one study (San, 2015) all commented on how they help create the master schedule and build in or offer time for co-planning.

Three studies (Gerber & Popp, 2000; Nierengarten & Hughes, 2010; Walther-Thomas, 1997) made assertions about how many students with disabilities should be in co-taught classes in secondary schools to maintain the effectiveness of the co-teaching model. Walther-Thomas and Nierengarten and Hughes) cited the importance of having natural proportions of students with disabilities in co-taught classes; they found extremely negative effects when academic and/or behavioral needs in a co-taught classroom were too high. Specifically, Nierengarten and Hughes claimed no more than 25-50% of the co-taught class should be comprised of students with disabilities or students considered to be at risk. Conversely, Gerber and Popp asserted that administration should employ criteria of “academically able” rather than strictly percentages or ratios in scheduling co-taught classes. All three studies asserted that schools cannot solely rely on students being scheduled by computers. Walther-Thomas found that in many instances, principals needed to “override” computer-generated scheduling to ensure the proper placement of students.

Another area in which there was agreement among studies was in how to recruit co-teachers. Two studies (Gerber & Popp, 2000; San, 2015) indicated that voluntary participation in co-teaching is preferred. Two of the three principals in San (2015) wanted general and special education teachers to volunteer for co-teaching or at least express an interest in it. The other principal participant in the study considered personalities and certifications of teacher before assigning them to a co-teaching partnership. Nierengarten and Hughes (2010) found the importance of mindfully considering teacher compatibility. They recommended that extra attention be paid to the special education teacher in a partnership—the special education teacher’s knowledge, interest, preferences and strengths—when pairing him or her with a general education teacher.

One last theme that emerged from all six studies was the importance of providing instruction and support in co-teaching either in teacher preparation programs or through professional development in current districts or buildings (Cramer et al., 2010; Gerber & Popp, 2000; Nierengarten & Hughes, 2010; Pearl et al., 2012; San, 2015; Walther-Thomas, 1997). All aforementioned studies asserted in some way the importance of co-teachers having some kind of preparation, or better yet, ongoing professional development opportunities. In two studies, many co-teacher participants indicated that staff development would improve their co-teaching skills and felt it was a need, but shared there were very few opportunities (Nierengarten & Hughes, 2010; Walther-Thomas, 1997). Skill development topics that co-teacher participants reported would be useful included scheduling, co-planning and co-teaching skills, writing IEPs for mainstream setting and communicating effectively to facilitate teamwork and collaboration (e.g., conflict resolution and problem solving) (Walther-Thomas, 1997). In the literature review

completed by Cramer et al. (2010), it was found that only one secondary special educator had received training in co-teaching in their teacher preparation program in one study reviewed; in the other study, two had received training in co-teaching in their teacher preparation program. All other staff received in-service training in co-teaching; the researchers cited that without training in selecting and planning for the various co-teaching approaches, co-teaching is less effective (Thousand, Villa, & Nevin, 2007, as cited in Cramer et al., 2010). Gerber and Popp (2000) indicated that collaborative teaching requires complex instructional and interpersonal skills; therefore, first-time co-teachers should be trained and expected to achieve a prerequisite set of skills before co-teaching either through university-based programs or district/school-based professional development. They furthermore recommended that mentors or school-based staff consultants be utilized to support new co-teachers (Gerber & Popp, 2000). The statewide co-teaching initiative study by Pearl et al. (2012) provided co-teacher participants with a variety of professional development. Teams of teachers from each school received a one-day co-teaching in-service, and the Arkansas Department of Education (ADE) contracted with a professional development team. The content that was presented evolved over the 5-year period, however, core concepts remained consistent. Each team from each school received a 100-page resource book and a co-taught lesson planning tool each year; those tools were used as reference points during webinars (online trainings) and onsite coaching sessions that were offered to co-teachers (Pearl et al., 2012). The researchers and ADE strove to provide more than a one-and-done approach to professional development for co-teaching (Pearl et al., 2012).

### **Implementing a Co-Teaching Model at the Interpersonal Level**

All five of the articles focusing on essential elements of co-teaching at a more interpersonal level mentioned the importance of communication in co-teaching partnerships to some extent (Bacharach et al., 2008; Dieker, 2001; Edwards, 2016; Fluijt et al., 2016; Pratt, 2014). Fluijt et al. found that empathy and active listening were important characteristics in one of the six categories they identified required to be a good co-teacher. It is also important for co-teachers to communicate openly and to be open-minded (Pratt, 2014); Pratt found that effective co-teachers do not avoid issues. Similarly, Bacharach et al. identified honest communication as a critical element of successful co-teaching according to cooperating teachers. Both Bacharach et al. and Edwards addressed the value of communicating nonverbally in a co-teaching partnership, particularly during class. Edwards noticed that co-teachers who were effective had an established system of checking-in with one another nonverbally during a lesson using nods, glances or hand signals. Furthermore, Edwards found that inclusive language should be used that reflects the co-teaching partnership as a unit; using language such as “we” or “us” can communicate cohesion to students and within the partnership.

Of the five articles, four of them alluded to the need of having a shared vision between co-teachers in a partnership (Bacharach et al., 2008; Dieker, 2001; Edwards, 2016; Fluijt et al., 2016; Pratt, 2014). Pratt found that co-teachers need to find common ground, which can include agreeing on classroom management or grading philosophies; something co-teachers can do is to develop rubrics for grading. Bacharach et al. identified sharing leadership as one of the critical elements of co-teaching. Exemplary co-teachers in another study also established shared values and beliefs (Edwards, 2016).

Four of the articles also established the importance of co-teaching partners establishing and maintaining a positive climate (Bacharach et al., 2008; Dieker, 2001; Edwards, 2016; Pratt, 2014). All nine co-teaching teams that Dieker studies established a positive climate. Bacharach et al. found that it was critical for co-teachers to trust and respect each other. One strategy that some co-teachers in the study conducted by Pratt used to overcome challenges was to use humor. Edwards observed that the co-teachers in her study viewed co-teaching as both productive and positive.

Four studies (Bacharach et al., 2008; Dieker, 2001; Edwards, 2016; Pratt, 2014) alluded to the importance of co-teachers clarifying their roles within a partnership—this can go for planning, classroom management, teaching, etc. Pratt found that co-teachers who are successful use their strengths while Edwards likewise found that co-teachers combine their strengths. Dieker shared that roles should be discussed in a co-teaching partnership and found in her study there had been concern about the role of the special education teacher in the general education setting specifically. Dieker observed that the special education teacher often was in a supporting role, but did not always seem to be focused on the needs of students with disabilities. She asserted that special education teachers need to plan for and share with their general education counterparts the goals and objectives of a student's IEP at the very least (Baker & Zigmund, 1995, as cited in Dieker, 2001).

Lastly, two studies (Edwards, 2016; Fluijt et al., 2016) mentioned the value of co-teachers utilizing various kinds of tools. Edwards found that exemplary co-teachers in her study developed their own tools (including procedures, strategies and materials) that are effective for the co-teaching partnership and students. Both co-teaching partnerships she studied utilized a

classroom website; one co-teaching partnership developed a roadmap for the course that was posted in the classroom. Conversely, Fluijt et al. recommended the use of tools that would help co-teachers to reflect on their practices and needs—they found two specific tools already developed—the Checklist for Purposeful Co-Assessment and the SHARE Worksheet—which co-teachers could utilize.

### **Recommendations for Future Research**

Of the 11 studies reviewed that examined the first research question, all but one had a strictly qualitative design, which is a limitation in that there may be increased instances of observer error or misinterpretations by the observers and/or interviewers. With qualitative research design, it is not possible to derive any actual statistical significance. The data are empirical and compiled/organized; no interventions or research conditions were examined. Pearl et al. (2012) included some quantitative data that was statistically analyzed for significance.

All 11 studies were conducted in a limited demographic area (within one school, one district, or one state) which affects the generalizability of the results to other schools, districts or states in the country.

Sample size was a significant limitation for some studies (Cramer et al., 2010; Nierengarten & Hughes, 2010; San, 2015; Walther-Thomas, 1997). The smallest, least generalizable, sample size was in San in which the sample consisted of three participating administrators. The largest sample size was 789 teachers in Pearl et al.'s (2012) statewide study in Arkansas. Some of the studies should be replicated with larger sample sizes, including Pratt's (2014) study, to determine generalizability to different geographical areas.

Due to the qualitative nature of the studies, there rarely was any kind of control or comparison group; several studies examined co-teachers or administrators who were identified as being “effective” or even “exemplary.” It would be informative to compare effective co-teaching teams to those who are not effective to really be able to delineate the differences.

### **Implications for Current Practice**

As a special educator at a secondary school, I have multiple roles—I teach my own resource/special education reading classes and I collaborate with the English department and co-teach English classes. This year, I co-taught two English 9A classes and am currently co-teaching English 9B and English 10B. Based on what I have learned, I will meet with a principal to request placement with a co-teacher with whom I have worked well in future years, as effective or compatible co-teaching partnerships should be kept together as much or as long as possible, so that co-planning time and needs decrease (Walther-Thomas, 1997). I saw this firsthand with the English 9A courses I co-taught—I partnered with the same teacher for both; one was in the first trimester, and the other was in the second trimester. It was noticeably easier to co-teach in the second trimester, since we had already established curriculum, some modifications and adaptations and how we would assess. The English teacher and I also had already established classroom management philosophies shared responsibilities. Now, I am working with two new teachers and two new courses; it is definitely an increase in work and planning time again.

When co-teachers are beginning a new partnership, it would be important for them to have a pre-planning meeting in which they are able to outline their vision and goal for the class. Co-teachers should also clarify the roles in order to increase efficiency and

communication. It is not always realistic to be able to communicate on a daily basis during a planning period; however, it seems critical that any kind of issues be discussed as they arise openly and honestly. During any kind of communication, I personally will do my best to stay positive—it can be easy getting trapped into negative thinking or complaining; however, it is not productive or conducive to a positive climate, which is important in a co-teaching partnership.

I would also like to request of our principals and counselors that they become more deliberate with scheduling and balancing needs in co-taught classrooms. Best practice also appears to indicate the importance of offering periodic and if possible, on-going, supports and professional development opportunities for co-teachers to promote continued growth. I will certainly ask to attend any professional development if I hear of any being offered; I may also request that professional development be offered in my district and/or school.

On a grander scale, it would be beneficial to teacher candidates—special or general education—if they were required to receive some kind of training in co-teaching or related to co-teaching (e.g., collaboration skills), since co-teaching and other kinds of collaboration are becoming increasingly common. Teacher candidates would begin their teaching careers with more knowledge and a more extensive skillset in approaching all the facets of collaborating with another professional in delivering instruction to diverse learners.

### **Summary**

Co-teaching has become an increasingly more common method of service delivery to students in special education; it provides supports for them to receive instruction in the least restrictive environment. The findings of these studies were somewhat consistent in both examining what are the important components of implementing a co-teaching model at a

secondary building/administrative level and what are the important components of implementing a co-teaching model at an interpersonal level. In order to provide the best outcomes to students with disabilities who are instructed in co-taught classrooms at the secondary level, teachers must be provided time, support, and professional development. Teachers who are in co-teaching partnerships must develop strategies for communication, conflict resolution, and develop a shared vision with their co-teaching partners to be successful. When teachers are successful, students are able to be successful.

## References

- Bacharach, N. L., Heck, T. W., & Dahlberg, K. R. (2008). What makes co-teaching work? Identifying the essential elements. *College Teaching Methods & Styles Journal (CTMS)* 4(3), 43-48. doi:10.19030/ctms.v4i3.5534
- Brown, N. B., Howerter, C. S., & Morgan, J. J. (2013). Tools and strategies for making co-teaching work. *Intervention in School and Clinic*, 49(2), 84-91.
- Conderman, G., & Hedin, L. R. (2013). Co-teaching with strategy instruction. *Intervention in School and Clinic*, 49(3), 156-163. doi:10.11/105345113496158.
- Cook, L., & Friend, M. (1995). Co-teaching: Guidelines for creating effective practices. *Focus on Exceptional Children*, 28(3), 1-16.
- Cramer, E., Liston, A., Nevin, A., & Thousand, J. (2010). Co-teaching in urban secondary school districts to meet the needs of all teachers and learners. *International Journal of Whole Schooling*, 6(2), 59-76.
- Dieker, L. A. (2001). What are the characteristics of “effective” middle and high school co-taught teams for students with disabilities? *Preventing School Failure: Alternative Education for Children and Youth*, 46, 14-23.
- Dieker, L. A., & Murawski, W. W. (2003). Co-teaching at the secondary level: Unique issues, current trends, and suggestions for success. *The High School Journal*, 86(4), 1-13. doi:10.1353/hsj.2003.0007
- Edwards, L. (2016). *Fostering the development of high school co-teaching teams: Lessons from two exemplary pairs* (Doctoral dissertation). New Brunswick, NJ: Rutgers University,

- Fluijt, D., Bakker, C., & Struyf, E. (2016). Team-reflection: The missing link in co-teaching teams. *European Journal of Special Needs Education, 31*(2), 187-201. doi:10.1080/08856257.2045.1125690
- Friend, M., Cook, L., Hurley-Chamberlain, D., & Shamberger, C. (2010). Co-teaching: An illustration of the complexity of collaboration in special education. *Journal of Educational and Psychological Consultation, 20*(1), 9-27. doi:10.1080/10474410903535380
- Gerber, P., & Popp, P. (2000). Making collaborative teaching more effective for academically able students: Recommendations for implementation and training. *Learning Disability Quarterly, 23*(23), 229-236.
- Magiera, K., & Zigmond, N. (2005). Co-teaching in middle school classrooms under routine conditions: Does the instructional experience differ for students with disabilities in co-taught and solo-taught classes. *Learning Disabilities Research and Practice Learning, 20*(2), 79-85. doi:10.1111/j.1540.5826.2005.00123.x.
- Martin, E. W., Martin, R., & Terman, D. L. (1996). The legislative and litigation history of special education. *The Future of Children, 6*(1), 25. doi:10.2307/1602492
- Nierengarten, G. (2013). Supporting co-teaching teams in high schools: Twenty research-based practices. *American Secondary Education, 42*(1), 73-83.
- Nierengarten, G., & Hughes, T. (2010). What teachers wish administrators knew about co-teaching in high schools. *Electronic Journal for Inclusive Education, 2*(6).

- Pearl, C., Dieker, L. A., & Kirkpatrick, R. M. (2012). A five-year retrospective on the Arkansas Department of Education co-teaching project. *Professional Development in Education, 38*(4), 571-587.
- Pratt, S. (2014). Achieving symbiosis: Working through challenges found in co-teaching to achieve effective co-teaching relationships. *Teaching and Teacher Education, 41*, 1-12. doi:10.1016/j.tate.2014.02.006
- Pratt, S., Imbody, S., Wolf, L., & Patterson, A. (2017). Co-planning in co-teaching: A practical solution. *Intervention in School and Clinic, 52*(4), 243-249.
- San, M. C. (2015). *Urban school principals rated as highly effective: Support and culture for co-teaching teams* (Doctoral dissertation). Orlando, FL: University of Central Florida
- Shaffer, L., & Thomas-Brown, K. (2015). Enhancing teacher competency through co-teaching and embedded professional development. *Journal of Education and Training Studies, 3*(3), 117-125.
- U. S. Department of Education, National Center for Education Statistics. (2016). *Digest of education statistics, 2014* (NCES 2016-006), Chapter 2.
- Walther-Thomas, C. S. (1997). Co-teaching experiences: The benefits and problems that teachers and principals report over time. *Journal of Learning Disabilities, 30*(4), 395-407. doi:10.1177/002221949703000406